New York.

ASBESTOS

VOL. III. ROCHDALE, APRIL, 1920. NO. 10.

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This allegorical drawing, by Bernard Partridge, is our "House Mark." It represents "Asbestos" standing between Civilization and the destructive elements.

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ASBESTOS

VOL. III. ROCHDALE, APRIL, 1920. NO. 10.

Thoughts from the Editor's Fireside.

The Triumph of Reason.

THOUGH we have been called upon in the discharge of our duty to utter warnings from time to time of the tendency of certain movements in Trade Union circles, we have always insisted upon the unchanging " solid " character of the great majority of workers.

It was therefore with no great surprise we learnt of the contemptuous rejection—by nearly four to one—by the Trades Union Congress of the proposal for a general strike, which in its nature would have been the first step to revolution.

We can afford to ignore the fulminations in some of the speeches, in view of the result of the voting—the latter was a triumph for British sanity.

We feel convinced that were the issue subjected to the Parliamentary ballot—instead of the card vote—there would be an overwhelming majority in favour of constitutional methods.

Let us not fall into the error, however, of thinking that this disposes of the questions which gave rise to the proposal of the " wild men."

And let us not forget the " wild men " are still there. They are not finally disposed of by any means.

We have attempted to depict in our cartoon the mental vision of the majority of sane men and women—the sinister Shadows which have been threatening for many months past are slinking into the background (so far as England is concerned). But we do not deceive ourselves as to another vision. In the minds of some the Shadows would take the form of Rising Prices (the Evil Genius), Nationalisation (the Saviour), and Revolution (as the Messenger to Prepare the Way).

Of all the Shadows in either view, one remains—Rising Prices—and that it is the Evil Genius we (of both views) can agree.

In economics, as in politics—in everything in fact—it is a waste of time looking for a remedy before the cause of the trouble is understood. This the majority of Labour Leaders (with notable exceptions) are continually guilty of—hence the criticism of their unfitness to govern. We have heard Labour men who apparently aspire to Cabinet rank say they " have no time to study economics " —nor " foreign politics." They will have to find time if they wish to handle the business of the Empire.

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The Supreme Allied Council considered the question of rising prices recently—not rising prices in England, in Lancashire—in Rochdale. Not even rising prices in Europe. British miners talk as if they are the only community called upon to suffer as a result of the world war. It is nothing to them apparently that the inhabitants of France and Italy are suffering twice as much—we do not urge the cases of Germany, Austria, Hungary, and Turkey (so recent enemies), though their troubles are our troubles whether we recognise the fact or no. The neutrals—Swedes, Danes, and Swiss—are worse off than us. Japan is as badly off, while even America, an exporting country who most of us look upon as " having made a bit " out of the war, is in nearly as bad case as ourselves.

A very useful resolution was passed at the National Conference of Manufacturers and Producers recently—that the Government publish monthly comparative statements, showing the current prices of the chief commodities in the principal countries of the world; these prices being converted into English currency values at parity, in order to show clearly the relative burdens born by individual consumers in this country and in other countries.

The rising tide is universal, and the cause is universal shortage of commodities, depreciated currency, and disorganised transport.

The remedy, then, is WORK.

You who are reading this know whether you are performing your duty to your fellows in helping along Production in your sphere and according to your capacity. If you are, you have Humanity's Benediction.

If you are not, you are shouldering perhaps the gravest responsibility it is possible to shoulder in this generation.

Editorial Notes.

" INDUSTRY AND FINANCE."

" Prior to the war there was not more than one in ten thousand among us who had the remotest knowledge of the operations of the money market, or of the workings of the machinery of exchange. One of the outstanding blemishes of our educational system from the university right down to the elementary school is that it neglects finance and banking, to say nothing of economics. That being so, the present Press agitation can be nothing but a passing sensation for the majority, who will take a delight in recapitulating clever phrases written by newspaper scaremongers, who for the most part know no more what they mean than do their readers."

Thus the Editor of *Ways and Means*, who does not confine himself to the use of the acid of destructive criticism, but is doing a good work—along with the Editors of such leading journals as *The Economist*—in educating " the man in the street " in economics.

The last-named, Mr. Hartley Withers, has kindly consented to devote part of his valuable time to the benefit of the readers of *Asbestos*, and the first of a series of articles from his pen will be found elsewhere in this issue.

* * *

TOBACCO AND SEWING COTTON.

It would be difficult to find two better subjects as examples of profiteering to arouse the ire of Mr. and Mrs. British Voter—but somehow the recent " exposures " were damp squibs. Why? Because he and his good lady have a very

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good idea " there's nothing to it." In the case of Tobacco the verdict was " not proven " ; in the case of Sewing Cotton the evidence brought out the fact that but for the " monopoly " the public would now be paying 1s. a reel instead of 7¼d. The breaking of such a monopoly would be against the interest of the worker. If a monopoly serves the public honestly—as to price and quality, employment and wages—no matter what it is called, it is anything but an enemy of the worker. Such large businesses—paying more in taxation to the British Exchequer out of profits made abroad than the total amount of profits made out of the home consumer—should have the hearty approval of the British taxpayer and worker.

* * *

" THE WAY OF SALVATION."

Under the above heading we printed some urgent words by Sir Auckland Geddes in our last issue, pointing out that we cannot recover our premier trading position except by increasing production, that we must exchange goods for goods, that our principal goods for export is coal, and that the decline in the getting and export of coal is hampering not only this country, but the recovery of the whole of Europe.

We don't suppose Sir Auckland would lay claim to being an expert on coal, and we are glad (as always) to have the case for the other side presented.

Mr. A. E. A. Edwards, M.I.Mech.E., of Birmingham, is an authority on Fuel Economy and kindred subjects, a lecturer before such eminent societies as the Junior Institute of Engineers, Association of Mechanical Engineers, etc. In sending us copies of two of his lectures, he says, referring to the article in question : " To my mind the export of coal should be a criminal offence."

Now those are strong words, and evidently arise from conviction.

On the one hand we have the statement of the case thus : Export coal pays for food and raw material. The less coal leaves this country the nearer insolvency the mining industry approaches, unless the price is considerably raised to the home consumer (which would result in rises in prices of everything).

Mr. Edwards, as counsel for the other side, says : Coal is the most valuable asset the country possesses—too valuable to sell. There is not an unlimited supply. We allow it to be sent out of the country " for a paltry 27s. a ton, and pretend we are adding to the nation's wealth by doing so. Just consider for a moment," he says, " what this ton of coal would do *in* the country. It would produce 1,000 h.p. for an hour ; it will keep 1,000 people at work for an hour, who will earn in that time at least £50, and will produce goods in this hour of a saleable value of at least £150. Thus this coal which we give away for 27s. is capable of bringing into the country £150, and will be wanted for this purpose in years to come ; and without this ton of coal the 1,000 people cannot produce the goods. Thus every ton of coal we export is a loss to the country of £148 13s., and yet we go on exporting at a greater and greater rate, until our exports are now 34 per cent. of our total output. It is not only a loss to us, but it is a gain to our competitors of a like amount.

" I do not think that my conception of the loss to the country is over-estimated, nor do I think for a moment that the same thought has not occurred to others, but I am afraid that the reason the export continues is that none of our professional politicians dare risk the loss of the miner's vote.

" You may say that in addition to the 27s. we get for the coal we also get the profit of the shipment and so on, but it is obvious that, if we sell the coal for 27s., then anything we spend on transit of the coal is so much off our profit, while, moreover, if we made £150 worth of goods with this coal, the shipment would be increased enormously over the one ton weight of the coal.

" Our men and our ships could be much more profitably employed in making and transporting manufactured goods than they are in digging up and carrying away coal, which now amounts to 10 per cent. of our total exports.

" At the present moment our exports have increased twentyfold in the past 60 years.

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" Other nations do not give away their coal reserves like we do:—

We export 34 per cent. of our coal.
Germany exports 10 per cent. of their coal.
U.S.A. exports 4 per cent. of their coal."

But, conceding all Mr. Edwards says, if we forbid the export of coal, how is the country to carry on? With what goods shall we replace the value of coal exports? And will other countries continue to send us the raw materials we require in exchange for goods other than coal?

Incidentally, who is to bear the burden of the ever-increasing wage demands of the miners now that this particular brand of blackmail has been adopted as a policy in place of Nationalisation, which the country has shown it won't have?

* * *

MR. MALLABY-DEELEY, M.P.

There is something very funny in the fact that a millionaire is performing greater individual service to the worker at the moment than perhaps any other single Minister of the Crown—or Religion. Perhaps that may be considered a little too strong, but, taking the short view of the average man, it is a fact.

In his offer of suits at pre-war rates, he says " the present high prices are absolutely unnecessary and cannot be justified "—he should have added, " except under the primitive law of supply and demand." This omission we take to be an oversight, or perhaps it was left to be understood, because he explains further on that he depends upon public support to provide " a simple lesson in mass production," in the teaching of which lesson he will be performing even a greater service than in the provision of cheap suits.

* * *

THE LEAGUE OF NATIONS.

The Peace Treaty was ratified in Paris on Saturday, January 10th—just after our last issue appeared—and early in February the Council of the League of Nations met for the first time at St. James's Palace, with America a notable absentee. It will perhaps be remembered that we referred to the danger of losing the substance (the League of British Empire Nations) by overdoing the effort to grasp what is yet a shadow—the League of Nations. Moreover, there is no use deceiving ourselves into thinking that the original idea of the League will be yet brought to fruition with America's signature attached, in view of the proposals of the reservationists and the apparent acquiescence of our Government in the principle of limited liability as far as the U.S.A. is concerned, foreshadowed in Viscount Grey's recent letter.

Since we pointed out the significance of the formal repudiation of the West Indian Legislature of the rumoured suggestion of bartering British Guiana in liquidation of part of our war debt to the U.S.A., the rumour has developed into a concrete, though unofficial, proposal for the purchase of the Bermudas, but so far, we are glad to note, the proposal has received no sort of support from any reputable journal within the Empire. As for Bermuda, she terms the proposal " shameless effrontery " and " a gross piece of impertinence." On the top of this, Uncle Sam has received a rude shock to his growing conceit in the fact—which he did not expect—of John Bull being on hand with the first instalment of £50,000,000, and the announcement that the English and French Governments will be ready with another £100,000,000 in the Autumn! The proposal, however, has pointed significance viewed in the light of the objections of the reservationists, and in its bearing upon the birth of the League.

Exhausted and starving Europe meanwhile has been held in chains for months longer than need have been because of America withholding her signature to the Treaty which included the establishment of the League. Her attitude has been, and is, largely responsible for the large armies of fighting men still in existence alongside the pitifully larger armies of starving women and children. Her attitude is that of the prosperous Usurer toward a temporarily embarrassed but dignified Aristocrat.

In the meantime her interest in the League has been mostly confined to objections raised to the inclusion of the

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British Dominions as separate and independent voting entities! America contending for less freedom than England is willing to concede!

We are aware a large number of Americans—led by such men as Admiral Sims—are disgusted with the attitude of the Senate—this much was made pretty evident in the comments which appeared as a result of Lord Grey's letter throughout the U.S.A. Press—but we hold that no good is done by " soft " words from us (in any case we would not say one-half what Admiral Sims has said). Plain words are used, if not always appreciated, " across the Pond."

While due weight is given to the grave difficulties and dangers which beset the subject, however, we must pursue our way calmly, with our eyes open and our enthusiasm in blinkers. As a formula—most of us look for one—we would suggest: The League of Nations is our aim —the Empire our necessity.

* * *

Since the foregoing was penned the U.S.A. Senate has rejected the Peace Treaty, the possibility we had in mind being now translated into a calamitous fact. In commenting upon it, the *New York World* says, writing under the head " Betraying the Dead ": " So far as the United States Senate is concerned, the dead in this war died in vain." While we do not subscribe to this depth of pessimism, we feel it our plain duty to again urge, in the words we used in our last issue, that we " do not neglect our own doorstep in looking after the houses of our friends."

* * *

THE EDUCATION ACT, 1918.

We have been favoured with the outline of proposals which have developed as a result of an exchange of ideas between the Waterfoot (local) Education Authorities and Sir H. W. Trickett, Ltd., Slipper Manufacturers, in anticipation of that portion of the Act coming into operation under which boys and girls between 14 and 16 years of age will be required to attend for part-time instruction during the day in a Day Continuation School for 320 hours a year.

It is expected that by the Autumn of 1921 the Board of Education will have issued an Order making it obligatory on all employers to allow their young employees—*i.e.*, between the ages of 14 and 16 years—to attend Day Continuation Schools in accordance with the general Scheme drawn up by the Local Education Authority.

The proposals now under review cannot fail to prove of interest to the large number of leaders of Education, Industry, and Trade Unions who we number among our readers.

The Directors of Sir H. W. Trickett, Ltd., have accordingly expressed their willingness to endeavour to co-operate with the Rawtenstall Education Committee in the proposal to establish a Day Continuation School on voluntary lines, by offering to release such of their employees immediately as are between the ages of 13 and 15½ years from their employment for approximately 320 hours each year, until they attain the age of 16 years, in order that the benefit to be derived from attendance at such a school may not be delayed. By the voluntary arrangement now contemplated the firm will be enabled to gain valuable experience in connection with the necessary adjustment which would ultimately have to be made in the hours of employment of young persons and the re-organisation of their work at the time when the above-mentioned Section of the Act becomes obligatory.

There are at present about 110 young persons (boys and girls between the ages of 13 and 15½ years) employed at Gaghills Works. If they attend school part time it will almost certainly be necessary to procure some additional labour—probably representing as many as 28 additional employees, who will also attend such a school, or as an alternative, 22 additional employees who are over 16 years of age, and therefore exempt from attendance at a day continuation school under this scheme.

When this has been done the whole will be divided into five groups, so as to allow of there always being one group out of five at school and the other four at work. If 28 additional employees between the ages of 13 and 16 be engaged the number of persons comprised in four groups would

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be equal to the number of full-time young persons at present employed.

The times at which the boys and girls shall attend school has still to be decided. One system would be for each group to attend one day a week and every fifth Saturday morning.

Another system would be for each group to attend two separate half-days of four hours each, thus:

Group.	Day and Time of Attendance at School.	
A	Monday morning	Wednesday afternoon
B	Tuesday ,,	Thursday ,,
C	Wednesday ,,	Friday ,,
D	Thursday ,,	Monday ,,
E	Friday ,,	Tuesday ,,

Under this system the *whole* of the five groups would be at work on Saturdays, and a point of importance arises in connection therewith, namely, whether the extra labour of 28 (or 22) employees would be utilised every Saturday morning.

The problem connected with holidays of the school staff are to be discussed and decided with the Heads of Departments.

One probable solution appears to be by conducting the school with half staff during a period of, say, ten weeks. During this period each group could be taken separately for fortnightly periods to a school holiday camp, which would be conducted on lines calculated to be beneficial to the pupils' health, and at the same time provide increased facilities for organised recreation, nature study, and physical training, etc.

Another solution might be possible by the employers absorbing the extra labour during periods of stress which occur at the time of stocktaking, etc.

As there are lines of similarity in this subject in all industries, we have no doubt our readers who have any responsibility in the matter of education for the workers will find these details of service.

* * *

12,000 PATRIOTIC EMPLOYERS.

The first edition of the King's National Roll, a book of over 300 pages, containing the names of patriotic employers who had given undertakings for the employment of disabled men under the National Scheme down to the end of 1919, is now in circulation. The book contains nearly 10,000 names, with full particulars of the scheme, and copies are to be placed at the Employment Exchanges, in Free Libraries, and other Public Buildings, and in the hands of those whose offers to embrace the scheme have been accepted by the Local Employment Committee of their district.

It is a simple scheme. All that the employer has to do is to sign an undertaking that his staff shall include a percentage of disabled men, the percentage being agreed with the Local Employment Committee at the nearest Employment Exchange. In return, the employer has his name placed on the original King's National Roll, which is kept for the present at the headquarters of the Ministry of Labour, and is given the right to use a distinctive " seal of honour " on his business stationery.

Since this book went to press the number of patriotic employers registered has grown to over 12,000, and the later additions will appear in new editions of the Roll. Our readers will be interested to learn that both the name of our Firm and that of our sister Company are printed in the first edition.

* * *

AND THE UNPATRIOTIC UNIONS.

Most Unions are not unpatriotic—perhaps that preface will preserve our worthless life! But seriously, the definite charges brought before the House of Commons recently by Capt. Hambro of Trades Unionists refusing to work alongside discharged soldiers and sailors because the latter had not " served their time " (we presume), while the world is clamouring for production, is not only unpatriotic—it is wicked. We are still awaiting the answer to the charge. (A *tu quoque* is not an answer.) In the meantime we would again remind Trades Unionists that this restriction of mental vision does not argue well as a qualification for early occupancy of the seats of the Mighty. Once more, you can't run an Empire on these lines. The Amalgamated Society of Engineers and the Sheet Metal Workers might think it over.

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SPINNING AND WEAVING ROCK!

Though we have been fortunate in securing a regular supply of technical matter for *Asbestos*, the subject is of so specialised a character, so little is known about it, and the difficulties surrounding us under the cloak of D.O.R.A. have been so "blanketing" in their effect, that our success hitherto is to be ascribed perhaps as much to good luck as good management. With this issue, however, we commence the insertion of an important series of articles which in ordinary circumstances would have preceded many of those which have already appeared—this being the natural order. This series deals with the mines, the getting of the crude rock and its preparation for shipment to the factory, where the fibres of the rock are separated and spun and woven into yarn and cloth.

The author of this series is well qualified to deal with the subject—a fact which will be self-evident at the first glance. Mr. Théo. C. Denis is the Superintendent of Mines of the Province of Quebec, Canada, an important post in the Bureau of Mines, Department of Colonisation, Mines, and Fisheries.

* * *

" *ASBESTOS*," PHILADELPHIA.

Interesting quotations will be found in this issue taken from the columns of our contemporary of the same name " on the other side." The first number of Our Magazine was published in January, 1918—during the worst period of the war for the purpose, about which we shall have a tale to tell when D.O.R.A. is decently buried—*Asbestos*, of Philadelphia, commenced issue in January, 1920. The two Journals are separate and distinct, and deal with the opposite ends of the Industry—Philadelphia from the Mines end and Rochdale from the Manufacturing end. By mutual agreement arrangements have been made to quote freely from the one of what might prove of interest to the readers of the other, and we have no doubt readers of both publications will benefit by the exchange.

* * *

SIR SAMUEL TURNER, J.P.

We feel justified in paying tribute to the life's work of Sir Samuel Turner in this issue, not only because of his position as Head of our Organisation, but also—and more so—because of the ensample it provides for younger men, whether within or without our borders. We say in our sketch of his career: " One who has known him for the greater number of his working years says his success is due to his being 'level-headed, calm, patient, undismayed by difficulties, free from reproach, and a splendid character for younger men to follow.'" This is the considered judgment of Mr. James Brierley—to whom, by the way, we are indebted for the facts connected with Sir Samuel's industrial career which we print. It is given to few men to attain the age of 80 in full health and vigour, and to fewer to live to see the crowning success of a life's effort in both Business and Public life.

* * *

OURSELVES AGAIN.

Works Management for January (a journal devoted to Organisation Methods and Equipment), in illustrating the cover of *Asbestos* among a group of " Organs having a strong personality," says:

> " It makes very interesting reading. In an excellent editorial the Editor goes to considerable trouble to explain the general political situation from an unbiassed point of view, so that every employee who reads it may be kept informed of current happenings."

An employer writes: " I must say how much your Magazine is appreciated by me, and by my manager at the mill—and also not less by my daughter, who is a student of welfare work, and is greatly interested in all schemes of this description. You are to be congratulated on your Magazine. It is the very best of the several I have seen."

* * *

THE NEW " HALF-HOLIDAY."

Really, Mr. Casson will have to come again and teach us the other side of " Efficiency." On St. Valentine's Day the Staff of " Efficiency," feeling tired, took half a day off, dined at the Holborn Restaurant, and went to the Scala to see " When Knights were bold"! " When we get too tired," he adds, " let's go somewhere and have a good laugh." A good judge too—but where (and who) do the half-days come from?

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Industry and Finance.—I.

By HARTLEY WITHERS,
Editor "The Economist."

FINANCE is the machinery which supplies industry with capital and credit. Before any industry or any factory or company can get to work to turn out goods it has to have a piece of ground to work on, a building to work in, machinery to work with, raw materials to work up, and a fund of ready money out of which to pay wages to wage earners and salaries to managers and clerks during the time that must necessarily pass before any goods that it can turn out can be sent to market and be sold. This equipment is the capital with which industry works, always has worked, and always will have to work under whatever economic system it is producing goods.

In primitive times, before modern machinery was invented, it was usual for the craftsman to own the comparatively few tools with which he worked. He was thus, to some extent, capitalist and labourer in one, though even in the Middle Ages it was, of course, common for the master craftsman to employ apprentices and journeymen, who worked with his tools in his workshop on raw materials that he provided. He was thus the mediæval counterpart of the modern employer who owns his own factory and machinery and manages it for his own profit.

Owing, however, to the enormous scale on which modern industry works, the examples of the owner-manager-employer are now comparatively rare, for the capital that has to be employed is so vast and so costly that it is usually beyond the power of any individual to provide it. And so economic growth has evolved the joint stock company with a capital often running into many millions of pounds, which has been put into the business by thousands of people, most of whom perhaps have never seen its premises and factory, and none of whom, with the exception of the directors and managers, have any direct say in the conduct of its business. All that they can do, if they are dissatisfied with the management, is to insist on the resignation of the directors and to appoint new ones in their stead. But it need hardly be said that the shareholders very seldom make any attempt at interference with matters concerning which, in most cases, they are quite unable to judge.

This feature in the modern growth of industry, by which the wage earners by their work put profits into the pockets of people whom they never meet or see is one of the weaknesses of the modern capitalist system, and as such it will be dealt with later on. At present we want to see what the capital of a company really is and how it is applied to industry.

Let us make an imaginary balance sheet of an imaginary company and see how the thing works:—

Dr. to	£
1st Mortgage Debenture Stock	1,000,000
Preference Shares of £1	1,000,000
Ordinary Shares of £1	1,000,000
Reserve Fund	500,000
Sundry Creditors	100,000
Profit and Loss A/c	300,000
	£3,900,000

Cr. by	£
Freehold and Leasehold Land and Buildings	1,500,000
Plant, Machinery, Waggons, Horses, &c.	1,000,000
Stock and Work in progress	1,000,000
Sundry Debtors	350,000
Cash in hand and at Bank	50,000
	£3,900,000

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When people speak of a company's capital they usually mean the money that has been subscribed to it by shareholders or lent to it by debenture holders, but this money, of course, no longer exists in the hands of the company. It has been invested in what is its capital in a truer sense, namely, its buildings, machinery, and plant, stock of materials, and products, either half-finished or ready for sale. The money originally subscribed and lent still stands on the debtor side of the balance sheet because the company has to account for it to the shareholders and debenture holders, and has to pay it back to them, if possible, if it is wound up. To do this it would have to realise, that is turn into money again, the assets on the credit side of the balance sheet which it holds against this debt. Among the other liabilities on the debtor side we see "Reserve Fund," which means a sum that has been gradually set aside, year by year, out of profits—that is to say, the directors of the company, instead of paying away the whole of the profits in dividends, have kept back part of them to be invested in more assets, so as to strengthen the position of the company against bad times and enable it to go on working, if necessary, for a time at a loss. The "Sundry Creditors" item is money that it owes for raw materials, etc., not yet paid for, but this item is more than balanced by the larger amount of "Sundry Debtors" on the other side of the Balance Sheet, representing goods sold for which the money has not yet been received. In the next article the relative position of the debenture holders and the different classes of shareholders will be dealt with in detail.

CA'CANNY UNDER THE LENS.

Money is only the means by which goods are exchanged for one another. Those goods are only produced in order to obtain the other goods. The more of one sort are produced the more of the other sorts will be demanded in return. Well, doesn't it follow that the more one section of industry turns out the more employment it will give to the other sections in producing goods in payment? And that the less one section works the less it will cause the others to work?

Ah, but, say the wiseacres, if all are heaping up goods, there will be such a glut that everybody will have to stop work. Not at all. There may be limits to the demand for particular commodities. There is no limit to the demands of mankind for physical comfort and well-being as expressed in commodities, if not of one sort then of another. And when one demand is satisfied all that is wanted is to switch industrial effort on to the manufacture of other sorts.

This, then, is the choice: Limited output, which means that the good things of life will be scarce and dear to everybody, while employment would slump to zero. Or unlimited output, in which everybody would be employed and everybody would, within reason, have his full share of material comfort.

—*Sunday Chronicle.*

"THE FLAMING TORCH."

If, as the old saw has it, "Ridicule kills," the decision of the Trades Union Congress may perhaps have been influenced somewhat by *The Flaming Torch!* Produced in the style of the well-known "Pink 'un," one is at first "struck all of a heap" by the startling head-lines. But a bold advertisement on the front page restores our rocking sanity and sense of humour. This is it:

WHEN THE CONSTITUTION FAILS
TRY
LENIN'S LITTLE
LIVER LOZENGES,

For all internal and wind troubles.
Will put the wind up anybody.

Guaranteed to Effect a Thorough Revolution in the Interior.

See our numerous Testimonials from Petrograd and Moscow.

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Wages and Labour Conditions in the Far East.

By W. S. STEVENSON.

Lifting the Veil in the Far East, by E. Coleman, Cassell & Co., London.

DURING the year 1916 Mr. Frederic Coleman, an American journalist, made an extended tour of China and Japan with a view to studying the points that would be productive of a fair unbiassed sidelight on current events in those countries. His report is published by Cassell & Co., and is well worth careful perusal.

In addition to dealing exhaustively with matters political and financial, Mr. Coleman paid considerable attention to the manufacturing sections, and obtained data as to wages paid and hours worked, which are very interesting, having regard to the fact that in the future Japan must be looked upon as a serious competitor in the Eastern markets.

Dealing with the engineering section, Mr. Coleman gives a report of a visit to railway workshops of the South Manchurian Railway Co., which were started towards the end of 1908 and completed in 1911. The works provide employment for over 2,000 workpeople, and are replete with modern automatic machine tools and equipment of English and American make. The Company provide a model village with rent-free cottages for their 2,000 workmen and families, together with schools, hospitals, library, etc. The manager is a young Japanese, who received his training in the railway shops of England and America, and the workmen, skilled and unskilled, are about one half Japanese and one half Chinese. The hours worked are 10 per day, with one half-hour off for meals. *Seven days are worked per week* and only two days *per month* off for rest days. *The wages paid vary from* 2/- *per day up to* 5/- *per day;* the latter figure includes overtime and is for the highest skilled mechanics.

Cotton spinning and weaving is about the most highly organised industry in Japan, and Mr. Coleman visited quite a number of mills. He reports as follows: Two shifts are worked of 12 hours each (one hour off in each shift for meals) for seven days per week; two days are allowed off each month as rest days.

Now as to wages, a spinner who has had three years' experience receives 1/3 per day; the very best men may get as much as 1/5 per day. Women average about 11d. per day, and girls of 14 years of age, of whom there are a large number employed, 4½d. to 6d. per day.

The Osaka Chamber of Commerce has compiled a list of wages paid in 1916, amongst which may be mentioned the following:—

		s.	d.
Shipbuilding	Wages per day	1	8
Knitted Goods	,, ,,	1	5½
Hat manufacturers	,, ,,	0	10
Brick-making	,, ,,	1	3
Painters	,, ,,	1	3
Furnace Hands	,, ,,	1	8
Cabinet Makers	,, ,,	2	0
Joiners	,, ,,	2	1

In summing up his report, Mr. Coleman says: " The fight which faces the British business man in the Far East in the future is a hard one. America is a keen competitor. Germany will undoubtedly strive hard for her share of the business in China, but hardest of all will be the competition of Japan, who has such incredibly cheap labour at home."

Comparisons in wages are of little value without corresponding comparisons in output, which Mr. Coleman does not give, and, 'of course, it does not necessarily follow that the Japanese manufacturer, even with his low wage cost, can beat the

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British manufacturer in actual cost of production. The figures given, however, do emphasise the fact that the high rates of wages paid in this country can only be maintained by a correspondingly high output.

According to Mr. Coleman, the business morality of the Japanese trader is not of a high standard, and he occasionally adopts unscrupulous methods in pushing his wares. Fortunately for his competitors, however, his curious mentality does not seem to have grasped the elementary business axiom that " a customer satisfied is a customer retained."

" For ways that are dark " the following examples of Oriental duplicity would be hard to beat: The Standard Oil Co. of U.S.A., in order to encourage the use of illuminating oil in China, introduced and sold at a low price a very well constructed and efficient lamp. The enterprising and guileful Jap at once busied himself in making and flooding the market with an exact copy, so far as general appearance was concerned, but as a working proposition the copy was inferior, having insufficient air space, causing bad combustion and frequently an explosion. On asking the American representative of the Standard Oil Co. how he could distinguish the imitation lamp from the real one, he explained that his firm put no name on their lamps, but the Japanese maker religiously stamps on the bottom of his lamp " Made by the Standard Oil Co. of America."

The following is from a report dated 1916 by the Japanese Consul General in Sydney, Australia. The demand for enamel ware in Australia was increasing, and the war having stopped English and German goods, left the field open to Japanese products. How does the Japanese set about to obtain and retain this valuable trade, which was practically a gift to him? He throws himself wholeheartedly into turning out large quantities of enamel ware, and in his laudable endeavour to make money quick, he finds a good deal of his ware is imperfect, some of it having holes in. A European manufacturer with any regard to future business would, of course, relegate the defective ware to the scrap heap, but the wily Oriental knows a thing worth two of that, and overlooking the inevitable recoil, *fills the holes with lead and enamels over same.* The feelings of the Australian housewife the first time she used one of these delightful products may be better imagined than described.

The above illustrations of the childlike and bland psychology of a section of Japanese traders are very amusing, but with all due respect to Mr. Coleman we cannot take them as typical. There is another type of Japanese trader to be reckoned with, of undoubted integrity and high repute, often controlling vast capital, with ramifications in all parts of the world, and who is buying and exporting to Japan the latest and best English and American machinery. He will be able to combine the advantages of European plant and methods with an unlimited supply of incredibly cheap and adaptable labour unfettered, as Mr. Coleman informs us, by Factory Legislation and by Trades Unions, which are prohibited by the Japanese Government.

SAMUEL TURNER IN THE UNITED STATES.

Samuel Turner, of Turner Bros. & Co., Ltd., Rochdale, England, the largest manufacturers of Asbestos products in that country, and probably, if all were known, in the world, spent some time in the States last month, studying industrial conditions here.

From all accounts Mr. Turner was amazed by the " hum " of American industry, by the prompt dispatch of American business, and especially by the rapidity of building construction. Incredible as it might seem, the comparatively satisfactory condition of the labor problem in the United States was to Mr. Turner impressive and surprising.

It is hopeless, he thinks, for England to cope with American competition in the world markets.

Rumors are current that Mr. Turner's mission here was to determine a suitable site for a new textile plant, but from impressions gathered by those in personal touch with him while here, no such venture is under consideration.

—*Asbestos (Philadelphia).*

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Sir Samuel Turner, J.P.

WITH one accord, and with perfect spontaneity—an unique compliment—the occasion of the 80th birthday of Sir Samuel Turner (February 25th) was seized upon by a host of organisations—religious, political and industrial—and individual citizens to do honour to a personality noted in the three spheres of activity named. Of greatest interest to readers of *Asbestos*, of course, will be the recognition by representatives of staff and workers alike of that great and ever-growing Asbestos Industry of which Sir Samuel may lay claim to be the founder—at least in this country.

The presentation of a few facts and dates in chronological order will bring this fact out and prove of interest generally.

The late Mr. Samuel Turner, Sir Samuel's father, who founded the great cotton manufacturing business carried on under the title of Samuel Turner & Company Ltd. (Clod Mills, 1855) taught all his three sons the dignity of work. Sir Samuel left school at the age of eleven and began the serious business of life as errand boy; the second step was as a clerk in the offices of The Merchants Company, a Canal Company with a depôt in Rochdale, the third as an apprentice at an engineering works. There he remained until he was in his early 20's, leaving to go into his father's mill at Spotland. At the mill his mechanical knowledge was turned to good account, and besides taking part in ordinary mill work he carried out the necessary repairs to machinery. From 1864 to 1870, with his two brothers, John and Robert, the increasing business claimed nearly all his time and attention. Its success has been phenomenal, some of the most beautiful designs in cotton and woollen goods being turned out, which still rank in the forefront of Lancashire's staple product.

The firm of Turner Brothers dates from the year 1871, the original partners being the three brothers, John, Samuel, and Robert. The first patent was secured in 1871 by the now senior member of the firm, then Mr. Samuel Turner. It was for a packing made in the form of a ring from greasy cotton cloth and wire gauze, with a rubber strip in the centre, and used for the stuffing boxes of steam engines. Mr. Samuel Turner helped to make the patterns for the first machine for making rings, and though not now in use, it is still in existence.

Progress at first was very slow, and the operations small, but hard work and long hours resulted eventually in the building up of a sound and important business. From 1871 to 1877 Mr. Samuel Turner went out "on the road," did all his own book-keeping and assisted in making packings in his "spare time."

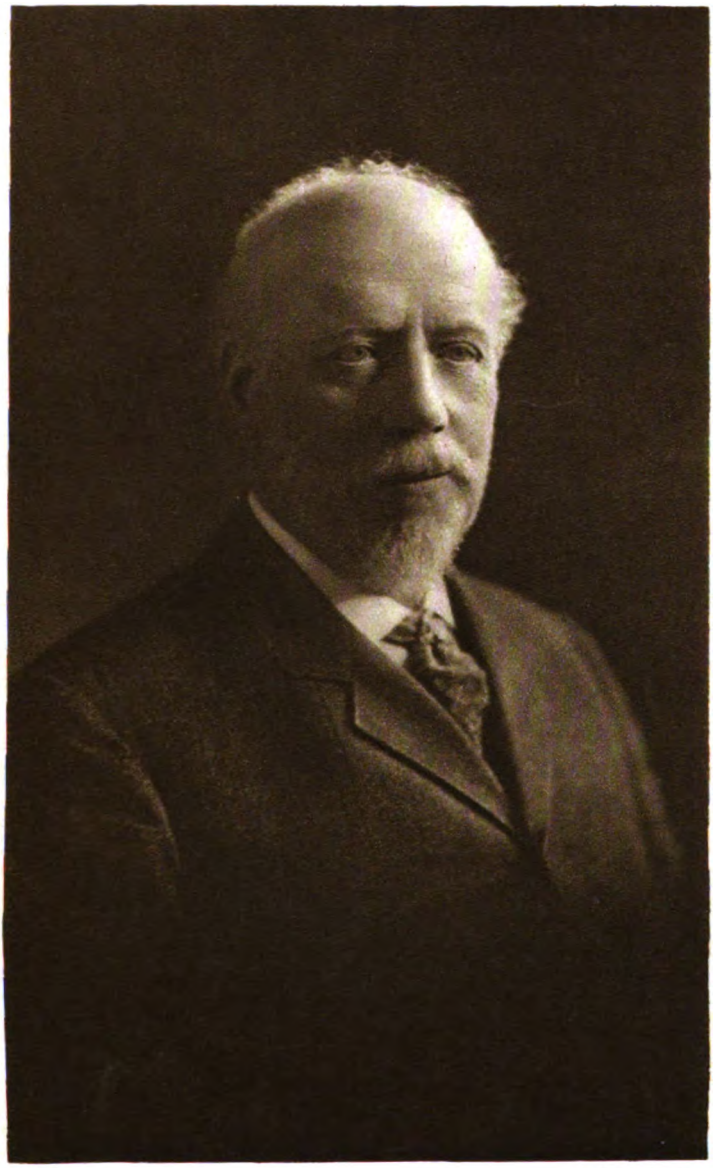
It was in 1878 that a forest fire in Quebec laid bare the most wonderful deposit of Asbestos that has yet been discovered. After the fire had burned itself out the asbestos was seen protruding through the soil. Sir Samuel's engineering training stood him in good stead at this juncture. He at once saw the commercial value of this raw material provided it could be spun into yarn and weaved into cloth. Being a mineral and possessing heat-resisting properties unknown in the animal and vegetable fibres, it would simply be invaluable as a packing and jointing material, and would mark a new era in the development of the steam engine. A company was formed, and the quarries have been vigorously worked ever since.

Meanwhile Mr. Samuel was busy. For many months he carried on a series of experiments with a view to the spinning of the fibre into yarn and plaiting it into ropes of various forms, and ultimately of weaving it into cloth. The year 1880 may be said to be the birth year of the Asbestos Industry in this country.

The spinning and weaving of Asbestos was, of course, not a new discovery; it

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Lafayette

Sam'l Turner

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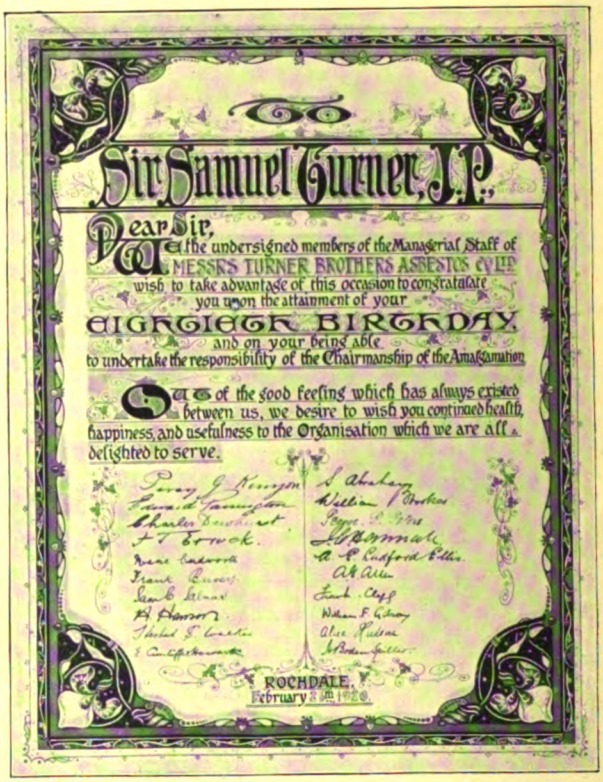
was rather a revival of an old industry on new lines. There is evidence that the Egyptians understood the art of weaving it into cloth. In cremating their dead they wrapped the bodies in Asbestos sheets, and so preserved every particle of ashes, which they afterwards stored in urns.

" I have seen," said Sir Samuel,* " in the British Museum a bit of Asbestos cloth taken out of an Egyptian tomb. For thousands of years the utilisation of Asbestos was practically a lost art, owing partly to the fact, no doubt, that it was difficult to get suitable raw material for manufacture. The Italian variety is only suitable for the purpose to a limited extent, the fibre being too coarse to be woven into cloth to meet present commercial requirements.

" Some Asbestos used to come from Russia before the war, but that supply is cut off now. Present supplies come mainly from Canada and Rhodesia."

Two graceful compliments by employees of the Firm have marked the occasion under review.

The Officers' and Workers' Committee, who together form the Works Council, forwarded to Sir Samuel the following congratulatory letter :—


To
Sir Samuel Turner, J.P.

Dear Sir,

We, the undersigned members of the Managerial Staff of MESSRS TURNER BROTHERS ASBESTOS CO LTD wish to take advantage of this occasion to congratulate you upon the attainment of your

EIGHTIETH BIRTHDAY

and on your being able to undertake the responsibility of the Chairmanship of the Amalgamation

Out of the good feeling which has always existed between us, we desire to wish you continued health, happiness, and usefulness to the Organisation which we are all delighted to serve.

ROCHDALE,
February 25th 1920.

25th February, 1920.

Dear Sir Samuel,

We, the Members of the Employees' Council of Messrs. Turner Brothers Asbestos Co. Ltd., desire to convey to you our sincerest congratulations on the attainment of your 80th birthday.

What your feelings are to-day we cannot tell, but we are confident that as you review the four score years which are gone you will be happy in the knowledge of " things accomplished." To us you stand as a

* From an interview reported in the *Rochdale Observer*.

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Pioneer who has blazed away his trail through the thickened undergrowth, and who stands at last, serene and happy, looking out across the fertile plain.

May we express the hope that you will continue amongst us for many years to come, at once an inspiration and a benediction.

To-day we are both pleased and proud to be,

Yours respectfully,

On behalf of the Members,

Chairman of the Officers' Committee,
Frank Clegg.
Secretary of the Officers' Committee,
H. C. Sutcliffe.
Chairman of the Workers' Committee,
David Healey.
Secretary of the Workers' Committee,
Alf. Horbury.
Chairman of the Council,
H. B. Spiller.

The Managers' congratulations took the form of a beautifully illuminated address on vellum, which we reproduce (though not, of course, showing the original delicate blending of colours, which has been done in imitation of the old missal handwork of the monks).

Sir Samuel's life has been an unbroken series of successes, with which " Luck " had little to do. One who has known him for the greater number of his working years says his success is due to his being " level headed, calm, patient, undismayed by difficulties, free from reproach, and " (he adds) " a splendid character for younger men to follow."

He still attends daily at the Rochdale works, though now relieved of much of the heavy task that fell to his lot in management and control years ago. For more than a quarter of a century he was there early and late, seldom finding his day's work done before eight or nine at night.

Again to quote the *Observer :* " It was this necessarily close application to the affairs of a great business concern that prevented him from taking his part in public life earlier. He was 55 years of age when he entered the Council in 1895. This was his first and only contest. For 13 years he has been Chairman of the Paving, Sewering, and Building Committees. He also sits on the Gas and Electricity Committee, the General Purposes Committee, and the Education Committee, and represents the Corporation on the Mersey and Irwell Joint Committee for the prevention of rivers pollution."

Sir Samuel was Mayor of the Borough in the Coronation Year of King Edward VII., 1902. His Mayoralty was marked by the munificent gift of Falinge Park to the town. In 1910, in celebration of the Coronation of King George V., he rounded off this gift by purchasing an additional piece of land " which has enormously enhanced both the beauty and the amenity of the Park."

" In 1903 he was made an Alderman ; in 1906 the Council, with the manifest approval of the town, conferred on him the Honorary Freedom of the Borough in recognition of his services and public spirit ; and in 1914 the King conferred the honour of Knighthood upon him. He is a past President of the Infirmary and an active member of the Board of Management, President of the Spotland Wards' Liberal Association, and a Vice-President of the Reform Association, and Hon. Treasurer of the Reform Club, an office he has held since the Club was founded in 1896."

Beside the gift of Falinge Park, his record as a benefactor of a variety of good causes—the Rochdale Infirmary, The Lifeboat Institution, of all local philanthropic organisations, the warm friend of religious work, especially in connection with his own United Methodist Church, and an unfailing adherent of Liberalism, is well known to his fellow townsmen.

It should also be recorded that Sir Samuel presented the Borough with the Town Hall Organ, made provision for Mayoral Robes, and gave the Corporation Mace and the Jewelled Chain for the use of successive Mayoresses.

An unique coincidence which merits record, in conclusion, is that all three brothers—John, Samuel, and Robert—have occupied the chair of the Mayor of Rochdale, Alderman John being Mayor in Queen Victoria's Diamond Jubilee Year.

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Correspondence.

"UNIONISM" AND DEMOCRACY.

To the Editor of "Asbestos."

Dear Sir,—It is very evident that in the absence of argument to combat my statements, Mr. Nuttall has decided to try throwing dust in the eyes of the workers by the use of personalities.

No patting on the back by anyone will ever give me as much pleasure as the sneers of men who support societies which prefer every other country to our own, as do many of the extreme leaders of the Labour Party, whom Mr. Nuttall is evidently delighted to follow. My critic says that he will deal with the matter at his members' meeting, as he has no Press to give him a chance. The lie is given to this in the fact that you have printed his letter in full and, as you say, have always invited free expression of opinion from all sides.

I have never claimed to write for anyone but myself, and it is a piece of presumption on the part of Mr. Nuttall to imagine that he or anyone else obtains that privilege by being elected to a position in a Union.

Since writing the article I find that the Dockers' Union have passed a resolution by which a man can only become a member of this Union by payment of the sum of £5 0s. 4d. How does this appeal to my critic? Just imagine the country in want of food and raw material; ships full of both waiting in the docks to be unloaded; men walking about in search of work, and debarred from obtaining it through their lack of wealth! Is not this another example of how Trades Unionism may become the enemy of democracy?

Mr. Nuttall says the Labour Party, although not perfect by any means, is the only party which represents organised labour. It would be much more valuable information for the general reader if he would say how that party is made up; who the bodies are other than Trades Unionists; what is the membership of such, and what is their power. Perhaps if I quote from the rules of the Labour Party it will give your readers a little idea of the importance which should be attached to resolutions passed by that body, and given out in the name of organised labour. In the constitution of the local Labour Party we find the basis of representation given as follows:—

(*a*) Branches of Trades Unions—one representative for every 100 members or part thereof, with a maximum of five from any one branch.

(*b*) Co-operative Societies shall be entitled to representation on the same basis as Trades Unions, *i.e.*, one for each 100 members or part thereof, with a maximum of five representatives from any one society. Where such membership exceeds 5,000 the basis of representation shall be arranged subject to the approval of the National Executive.

(*c*) Branches of other societies on the same basis as clause (*a*).

(*d*) Trades Councils not exceeding five in number.

(*e*) Individual men, such number not exceeding ten, as may be elected by the section. If the section comprises more than one thousand members, then not exceeding one per hundred members.

(*f*) Individual women ditto.

I would ask your readers to study this rule. It speaks for itself. These clauses have been framed for the purpose of putting the power into the hands of the individual section, *who do not represent organised labour.*

Well may Mr. Nuttall say that the Labour Party is not perfect. Since writing his letter my critic has had a taste of the wirepulling which goes on to prevent real democratic representation in connection with the management of the Labour Party.

Mr. Nuttall has a perfect right to follow whatever section he likes. If he wishes to follow men of the type of Williams,

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Nationalisation--Syndicalism—Revolution.

The Fleeting Shadows.

Four to One Against Direct Action.

See "The Triumph of Reason," p. 37.

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The Asbestos Industry.

JOINT INDUSTRIAL COUNCIL.

A MEETING of the Council was held at the Midland Hotel, Manchester, on Wednesday, March 10th, at which the subjects of the readjustment of the minimum rate (male), agreement *re* women's rate, and annual holidays were discussed.

With regard to the minimum rate for unskilled labour (male), it was reported that according to the returns of the cost of living as published in the *Labour Gazette* for December, January, and February, the average increase amounted to 126.66%, and that this would mean an advance of ½d. per hour; the following resolution was agreed to unanimously: "That the minimum rate of pay be and is hereby advanced ½d. per hour, and that such advance shall take effect the first full week's pay after the date of the meeting."

A proposal that the advance should apply to all male employees, including those under 18 years of age, was deferred.

A scheme had previously been discussed to fix a minimum rate for women workers, with sliding scale as in the case of men, the proposals as advanced by the Employers' representatives including the rate of pay at 6d. per hour, with one-third of a penny per hour increase or decrease for each 10% variation in the cost of living. The Workers' representatives were unable to agree to this, and after discussion it was eventually agreed "That in the case of women workers 18 years of age and over, the principle of regulating the minimum wages by sliding scale, depending upon cost of living as indicated in the *Labour Gazette*, be accepted, the basis to be 4½d. per hour, with ½d. per hour increase or decrease for each 10% variation in the cost of living. This basis is for day workers, the minimum for piece workers as shown by the prescribed rates for the Industry to be varied by the same amount per hour as for day workers. All other conditions to be as set out in the recent settlement for male workers." It was further resolved: "That this agreement shall come into force at the same time as the adjustment of rate for men arranged at this meeting, viz., the first full week's pay after the date of this meeting, and that the present percentage of increase in cost of living be agreed at 130%, as published in the February issue of the *Labour Gazette*."

The Employers' scheme for annual holidays was accepted in its entirety by the Council. It was as follows:—

"1. A week's holiday with 48 hours' pay at day rate only shall be granted, and no pay shall be given for any Bank or other recognised holidays not worked. Workers shall be eligible for the full holiday with pay when they have been in the employ of the firm for 51 consecutive weeks. Those who have been in the employ for 25 consecutive weeks or over but less than 51 weeks shall be entitled to 24 hours only. Employees of less than six months' service will not be entitled to any benefits under this scheme.

"2. Any worker who has qualified for his or her holiday who may be discharged more than four weeks prior to the date of the annual holiday shall not be eligible for holiday pay, but if he or she is discharged for causes other than misconduct within four weeks of the annual holiday, he or she shall be eligible for his or her holiday pay in the same manner as if he or she were still in the employ of the firm. Where a worker leaves voluntarily, *i.e.*, is not discharged by his or her employer, that worker forfeits all benefits under this scheme.

"3. Any worker not returning to his or her job at the stated time after any holidays, and not keeping full-time till

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the first making-up day after the holiday, will forfeit the whole of the holiday pay to which he or she may be entitled for that year, unless the lost time shall be through illness (see Clause 6) or by written permission of the Management.

" 4. Any worker who may in the course of the 51 weeks ending four weeks previous to the annual holiday have lost a total 48 hours' time, two quarters, *i.e.*, time lost before breakfast to rank as half a day or four hours, shall forfeit his right to holiday pay unless the lost time shall be through illness (see Clause 6) or by written permission of the Management.

Absence due to sickness to count as follows:—

" 5. In the case of illness a doctor's certificate must be produced, or the time lost will count as part of the above 48 hours.

" 6. If off work sick for three days or less, and the employee cannot obtain a doctor's certificate, he or she must immediately on return to work report his or her absence with the reason in writing to the Management, and if the Management decides that the reason given is satisfactory, the time will count as if the person had been working as far as payment for holidays is concerned. If off sick and the doctor's certificate has been supplied for the period (if not more than four weeks), full pay will be allowed for annual holidays. If off work for over four weeks and not more than eight weeks, half-pay for the annual holiday. If off work sick for more than eight weeks, no pay for annual holiday. Always assume that the employee has qualified for holiday payment.

" 7. In addition to the foregoing conditions, all Works Rules are to be maintained, and any serious breach may disqualify any employee from receiving the benefit of this scheme.

" 8. Details as now set out by this scheme are liable to revision each year."

It was further understood that lost time as provided for in the scheme should date from January 1st.

THE SANE ROAD.

Political action has not failed; it has never been fully tried. Labour has not returned to Parliament the number of members its voting strength warranted. Trade Unionists have not in the past used their political power as intelligently as they might. What right, then, have we to call on men and women to force the Government by action which could not fail to inflict on the nation an industrial evil which would involve bloodshed while not necessarily obtaining what we want, and while a less costly remedy is within our reach? The great rank and file are expecting, and are, indeed, entitled to a lead. They must be shown that the one sane road is to use intelligently the power afforded by the constitution, the most democratic in the world, and which could gain for them all that they desire. On the other hand, there is no man or woman with a feeling of responsibility that would deny that to give effect to a general strike would lead to serious consequences such as none can tell, and which would shake the country to its foundations, and this at a time when the country has just emerged from a war that has left behind troubles and difficulties the like of which had never been known before. Therefore, proud of our past labours, conscious of our duties and responsibilities, let us decide that we should persuade our people to follow the one sure and solid road to freedom: the way of education of the mind, of faith in our cause, that seeks not to rule the few at the expense of the many, but to provide the free and full life for all.—*Mr. J. H. Thomas, M.P., at the Trades Union Congress.*

MISAPPLICATION.

A centipede was happy 'til
One day a toad in fun
Said, "Pray which leg moves after which."
This raised her doubts to such a pitch
She fell exhausted in the ditch,
Not knowing how to run.

What are you out for?

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The Origin and Properties of Asbestos.—X.

ELECTRICAL PROPERTIES.

By H. W. ROWELL.

THE use of asbestos in the electrical industries is not so great as might have been expected in view of its unique combination of fire-resisting and electrical insulating properties.

It may be useful to explain the problem of electrical insulation by the analogy of a canvas fire hose delivering water to represent the wire delivering electric current. The pressure of water, representing pressure or voltage of electricity, may be increased until the canvas, representing the insulating covering on the wire, is ruptured, and a serious leak or "short" develops.

Insulating material is tested in the laboratory to breaking point under standard conditions, and the result is usually expressed in volts required to puncture one-thousandth of an inch of material.

On the other hand, the hose may deliver a large volume of water, representing amperes of electric current, at the required pressure, but the canvas may be porous, and a large quantity of water leak along the whole length and do no useful work, but even become a danger as well as a loss.

This porosity or insulation resistance is determined at the working pressure used, for the insulation may be sound at 200 volts and leak badly at 500 volts. This test is frequently made with a portable instrument, and a test showing five megohms between the wire of a lighting circuit and the earth would be considered sufficient, although under ideal conditions it might test several thousand megohms.

How does asbestos stand these tests, and how does it compare with other insulating materials?

Dry asbestos and asbestos-cement are both excellent insulating media, giving high tests under these conditions, and are largely used in several branches of the electrical industries.

The use of asbestos yarn for wrapping the wires of resistance nets and the mounting of resistance wires on asbestos-cement shows obvious advantage as these wires or elements become very hot, but all the advantages have not yet been used by designers of electrical machinery.

Serious fires have occurred, involving stoppage of power on groups of factories by the ignition of bitumen, cotton, rubber, and similar cable insulation attached to large switchboards, with the result that asbestos tapes and braiding are now largely used for obviating this defect.

Switchboards are usually made of white marble or enamelled slate, which, being insulating materials, electrically separate the gear mounted on them, but enamelled asbestos-cement slabs are even better, as they do not crack so easily under the heat of an accidental arc, or when drilled or when a bolt is screwed up too tightly.

Asbestos yarn, cloth, tapes, and paper are superior to cotton and similar textiles used in electrical work. They are fire-proof, and they will stand high heat for ever without losing any of their good insulating properties, while vegetable fibres are seriously damaged by continued heating at temperatures decidedly below the boiling point of water.

Any dry fibrous or powdered material, which has consequently a large surface area compared to its weight, will take up moisture on to its surfaces from the ordinary moist air. A piece of asbestos rock takes up practically nothing, but if broken up into fibre and the surface thus increased, it will take up about 1% to 2% of moisture, while cotton will take about 11%. When the moisture settles on the surface of the cotton fibre it soaks into and saturates the whole body of the fibre, but on asbestos it collects on the outside of the fibre only, and in a very moist atmosphere actual globules of water may be seen through the microscope collected where the fibres cross one another.

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ASBESTOS FIBRES SHOWING DEPOSIT OF MOISTURE GLOBULES.

Moisture is the usual cause of low insulation in materials used for the purpose, and it will be easily understood why asbestos is more easily and thoroughly dried than cotton and other fibres to remove the trouble, and it should be noted that the asbestos mineral fibre is a better insulator than the vegetable fibres. In motors, dynamos and transformers the field coils are wound with hundreds of turns of wire, which is covered usually with cotton yarn to prevent the wires touching, while armature coils or strips are wrapped with a greater thickness of tape or cloth strips. In either case the moisture is dried out of the textile material and the coils are impregnated with special moisture-proof insulating varnish.

There is in this case a mass consisting of vegetable fibre and other organic insulating material, like oils, gums, bitumen, rubber, etc., exposed to electric stress and heat, and all unsuitable for the purpose, as they are all gradually destroyed and cause eventually an expensive breakdown. They were, of course, the most suitable materials that could be found for use under the circumstances, but the electrical designer now has greatly improved asbestos goods at his disposal for this most complicated of insulation problems.

An electric motor or transformer cannot be run for long above its rated capacity, or it becomes hot and the insulation is burnt and breakdown occurs. The lubrication and mechanical difficulties could be overcome on a hot motor, as in the case of a steam engine, but the present type of insulation is the weak spot, and if this weakness were overcome it might be possible to more than double the rated capacity of a given sized motor, dynamo or transformer, and so half the cost of installing an electric power service in a factory.

Asbestos is largely used already for certain sections of electrical work, but it is obvious that research would demonstrate many more useful applications.

OPPORTUNITY.

Opporchunity Knocks at ivery man's dure wanst. On some men's dures it hammers till it breaks down th' dure an' thin it goes in an' wakes him up if he's asleep, an' aftherward it wurrks f'r him as a night watchman.

On other men's dures it knocks an' runs away, an' on th' dures iv some men it knocks, an' whin they come out it hits thim over th' head with a axe.

But iveryman *has* an opporchunity.

Moral: Make your own opportunity. Micawber died waiting for his.

Mr. Leon H. Britton, the American producer, tells how his company was recently making a film version of Rex Beach's novel "The Brand." Some of the scenes were laid in a snow-covered mountain pass, but when the company arrived at the spot rain washed away the snow and made the scenic effects impossible. So they returned to the studio, and the scene was reconstructed with canvas, asbestos, and salt.—*From "Film News" in "The Daily Mail."*

Simplicity of character is the natural result of profound thought.—*Hazlitt.*

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Asbestos-Cement.—II.

By W. F. GIBSON.

MY previous notes on Portland Cement indicated that it is a well-balanced mixture of certain compounds having specific ratios to one another. It may be safe to assume, therefore, that provided these internal conditions are fulfilled, the cement will be of excellent quality and will produce equally excellent results, no matter from whatsoever source the raw materials be obtained.

There may be reasons to slightly modify this under certain circumstances, but as a general assumption it may be taken as correct. To these compounds very well defined chemical formulæ have been assigned after careful experimentation in isolation, crystallisation, analysis, and subsequent synthesis of the several compounds present.

This has made a very fascinating study in the microscopy of cement, and much light has been thrown upon the complicated phenomenon of setting and hardening by employing such methods. It is proposed to reproduce some of these photomicrographs as illustration in later articles of this series.

The contentions of the two general schools of thought in respect to the behaviour of cement under certain conditions can scarcely be dealt with here, even though there may be some temptation to enter into such controversy. It is apparent that changes do occur that have a well-defined chemical basis, but the mechanism of such changes is still obscure and more or less speculative.

These changes are advantageous when considered with the application of cement to the manufacture of Asbestos-Cement, as will be shown later. The consideration of the internal structure of Asbestos-Cement must be firstly made in respect to dry materials, *i.e.*, dry cement and dry asbestos fibre.

Taking the first-named, which is a very finely pulverised material, some very interesting calculations can be made to reveal certain properties that are instructive. For illustration, a cement has been taken having the following fineness, or preferably coarseness, using B.S.S. standard size sieves :—

Residue on 76 × 76 sieve...Nil.
Residue on 100 × 100 sieve...Trace.
Residue on 180 × 180 sieve...5%.
Residue on 200 × 200 sieve...12%.

Reinterpreted, these figures may be stated :—

Residue passing 76's, but retained on 100's	Nil.
Residue passing 100's, but retained on 180's	5%
Residue passing 180's, but retained on 200's	7%
Residue passing 200's	88%
	100%

For illustration in this calculation it is assumed that the particles shown in the second table just pass through the mesh hole of the sieve, and each individual particle is a sphere. This is not strictly correct, but will serve the purpose of these calculations.

In the case of the 100's sieve, the hole is .0067″ × .0067″, *i.e.*, the inscribed circle will have .0067″ diameter. The sphere will have a surface area of .00014 sq. inches, and a volume of .0000001575 cubic inches. A pound weight of cement, having 5% residue, and having the above assumed spherical dimensions, will have approximately 86 square inches total surface.

Similarly with the 180's sieve, the mesh hole is .00372″ × .00372″, inscribed circle diameter .00372″, surface area of sphere .0000435 square inch, and volume .00000002695 cubic inch. A pound of cement with 7% residue, having these assumed spherical dimensions, will have approximately 218 square inches area, and with the 200's sieve the mesh hole is .00333″ × .00333″, the inscribed circle

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.00333″ diameter, the sphere will therefore have .0000348 sq. inch area and .0000000193 cubic inch volume, and a pound of cement with 88% residue under similar conditions as above will have approximately 3075 square inches total surface.

By computation from the above figures it can be shown that one pound of cement of the above coarseness will be composed of nearly 420,000,000 particles, having a surface area of 106 square feet.

Extremely fine cement has been taken as illustration for reasons to be considered later. The range of coarseness above represents approximately the best modern practice of cement pulverisation. There will be no endeavour here to enter into a discussion of the merits of any particular process of pulverisation, but it may be mentioned in passing that there is little difficulty, provided other conditions of manufacture are strictly under control, to produce the above figures by a careful selection and arrangement of machinery having a reputed capability in the direction required.

The Asbestos Industry in Great Britain.

As is well known, nearly all deposits of raw Asbestos are located in British Colonies.

Canada leads with 85%. South Africa, including Rhodesia, furnishes nearly all of the remainder of raw material.

In manufacturing, Canada contains but one relatively small plant, that of the Asbestos Manufacturing Company, Lachine, P. Q. This plant was originally owned and operated by Keasbey & Mattison Company interests, but some months ago was purchased by A. Paradis, and associates, of Quebec. It manufactures a general line of Asbestos shingles, paper millboard, and kindred products.

There are no manufacturing plants in other British Colonies.

In the British Isles are located a number of large plants, making shingles, paper, millboard, pipe coverings, textiles, packings and the full line of incidental products as made in the United States.

The largest Asbestos producer in England is Turner Bros. Asbestos Co., Ltd., Rochdale, England. The plant covers a large area of ground, and consists of a number of stone buildings of varying height, substantially constructed slate and Asbestos shingle roofed, and well located as to transportation, labor and climate. It produces substantially everything made of Asbestos and reports a gratifying volume of business.

Rochdale, by the way, was the city in which developed the first Working Men's League, and relations between Rochdale workers and employers are of the very best.

Several Asbestos plants are located in Scotland, a magnesia plant in Ireland, and several Asbestos plants in the south of England, in and near London.

Industrially, England is busy, and will be kept so for a long time in supplying goods to her colonies and her own people.

Quantity production has found its place during the war period in England, and undoubtedly when exchange resumes a more normal level English manufacturers will show to advantage in world trade.

Contrary to belief expressed in some quarters, it is apparent that English labor costs are nearly if not altogether as high as those in the United States, productivity per labor unit duly considered.

A house organ issued quarterly by Turner Bros. Asbestos Co., indicates clearly the existence of a very intelligent and effective labor policy looking toward the divertisement of workers, and substantial improvement of the worker's condition.

It would appear that some of the English manufacturers have found " the new religion " advocated by the " Manufacturer's Record," of Baltimore, some weeks ago.

Whether or no it appeals to our individual ideas, it is clear that it pays to operate the Golden Rule in business, and the measure of the payment is the good American dollar, plus a heap of satisfaction.—*Asbestos (Philadelphia).*

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A Chinese Asbestos Factory.—I.

By LADY DOROTHEA HOSIE.

A SMALL asbestos factory, run by a Chinese company, stands at a little distance from the foreign quarter of the city of Tientsin. Though one of the largest and busiest towns in China, the outlet for much of the trade of the North, turning the sheep's wool from Mongolia into carpets, a great clearing-house for coal, iron, furs, pea-nuts, flour, hemp, and many other commodities that arrive by river-barge, camel, steamer, or train, Tientsin in Winter is one of the least attractive spots on earth. Not a vestige of green is to be seen, the fields are all bare, no hedges, few trees, no hills higher than the large grave-mounds which have been there for centuries, and such a billowy waste sea of these that the eye turns with relief to the one remaining beauty of a great arc of brilliant blue sunlit heaven. For seven months during the cool and cold weather, not a drop of rain falls, while terrific icy winds, laden with dust, frequently drive everyone indoors who can stay there, and cover everyone else with such a thick coating of dust that their faces are grimed with it in a few minutes.

Not a very inviting spot for a factory; yet the Chinese are such a cheerful and industrious race that the management has no trouble in obtaining labour. A canal, with a steep embankment leading to a badly paved bridge, had to be crossed before reaching the building. "I'll walk up this steep bit," I said to my rickshaw man, who was streaming with perspiration, cold day though it was, having run a mile and a half, dragging me behind him in my rickshaw in about ten minutes. He turned round, laughed at my soft-heartedness, refused to set me down, and struggled gamely till he had dragged me safely up the incline. And, of course, I liked him all the better for refusing to be beaten.

The approach to the factory is spoiled at the present moment by a great heap of rubbish which has been dumped near the door, mixed with all the neighbourhood's coal ash, which will be carefully once more sifted and gone through by poor old women for precious bits of coke—a heap which will finally be used somehow in economical China, probably by some farmer on his soil. But it is not an ornament at the front door. From a little tumble-down shed adjoining the factory came a great babble of voices, and I knew that a small Chinese boys' school must be housed therein, for many Chinese schools still follow their centuries' old custom, the boys shouting out the lessons a few words at a time, swaying their bodies to and fro, every boy a different lesson and a different tune, till they have them by heart. The presence of this school, and some blocks of cottages built of brick, and tiled, instead of mud, and thatched, despite the fact that a Sanitary Inspector in England would have been horrified at the filth and primitive arrangements in the one little room that constituted the cottage, showed us that the directors had ideas on their responsibilities. The factory itself was built of good grey brick also, and solid, for the Chinese, unlike the Japanese, are not jerrybuilders.

The small open space at the entrance was being utilised for hanging out asbestos yarn to dry, while millboard was spread out on the ground for the same purpose (see Fig. 1). The director of the factory had sent word to us, regretting that he could not be present that day to show us round, and he put us, instead, in the charge of a Mr. Wu, who had studied engineering in the United States. The Americans some years ago refused to accept any longer the large annual indemnity money allocated to them after the Boxer troubles, but have had it earmarked by the Chinese Government to found a great school for Chinese near Peking, where a large number of students are trained, the best of whom receive further scholarships to colleges in the United States. As a consequence, it is

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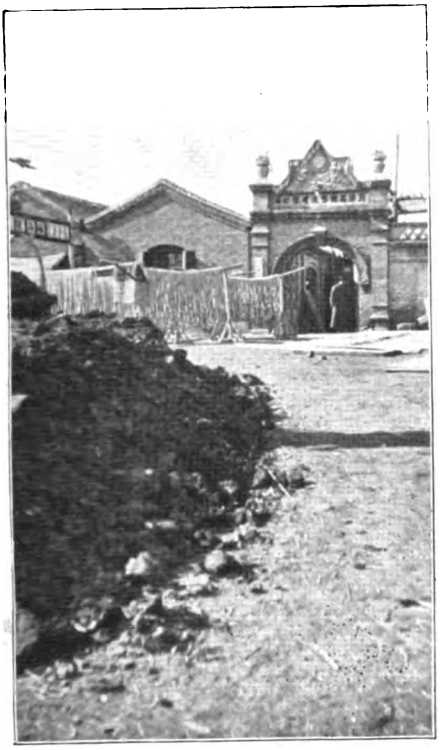


FIG. 1.—ENTRANCE TO THE TIENTSIN ASBESTOS FACTORY. ASBESTOS YARN AND MILLBOARD DRYING IN THE SUN.

quite usual nowadays to meet Chinese talking English with an American accent, devoted to America, and having learned a certain amount of Western knowledge there. So Mr. Wu's American accent did not surprise us. The great disappointment of these foreign-taught students is that they cannot take their countrymen along with them fast enough on the road to progress.

Mr. Wu was, he said, very much ashamed of the primitive methods and machinery used in the factory, and the director, whom we subsequently interviewed, said the same, while an English engineer, who had brought us to see the place, nearly wept to behold the waste of human labour and the sorry conditions of the workpeople.

" You really ought to buy foreign machinery," he kept saying, " if only for the sake of your workmen."

" Man, Man," they would answer, which means " Slowly, slowly," a motto which has been China's undoing for far too long.

" Every day you are wasting labour," he argued.

" True, true," they would answer, " but in the first place the workmen are afraid of losing work if we introduce foreign machinery; and secondly, we have not got the capital yet."

The factory has only been started some four years, and is a new idea and a new venture altogether on the part of the Chinese; it was paying its way till last year, when the manager began what we should bluntly call embezzling, and the Chinese " too much squeeze," and he had to depart. Probably the Company did not give the man a fixed and sufficient salary, suitable to his onerous and responsible position, expecting him to make up the deficiency by taking toll of everything that passed through his hands; but he took rather too big a toll and left too little for the factory. It is the same story with Chinese official life. An underpaid judge means corruption in the Courts of Justice. A magistrate out here receives barely sufficient to pay for the lighting, heating and upkeep of his Court, for which he is responsible; how, then, is he to make enough money to keep his family and himself in the manner expected of his official post and provide for the future, except by taking bribes? The Overseer of the Roads receives a lump sum down for keeping the roads of his district in order: if that is admittedly only sufficient to pay for the gravel and the workmen, how is he himself to live? Naturally, the roads of China are, on the whole, atrocious. There are, moreover, no Chinese public auditors. We were glad to hear that the new manager is restoring the factory to its former prosperity.

(To be continued.)

Maximum prices must be fixed according to the capacity of the most efficient manufacturers of the goods in question, else these firms would make enormous additional profits. The inefficient manufacturer should have no mercy from him. If he could not compete, let him go to the wall!

MR. NEIL MACLEAN, LABOUR WHIP.

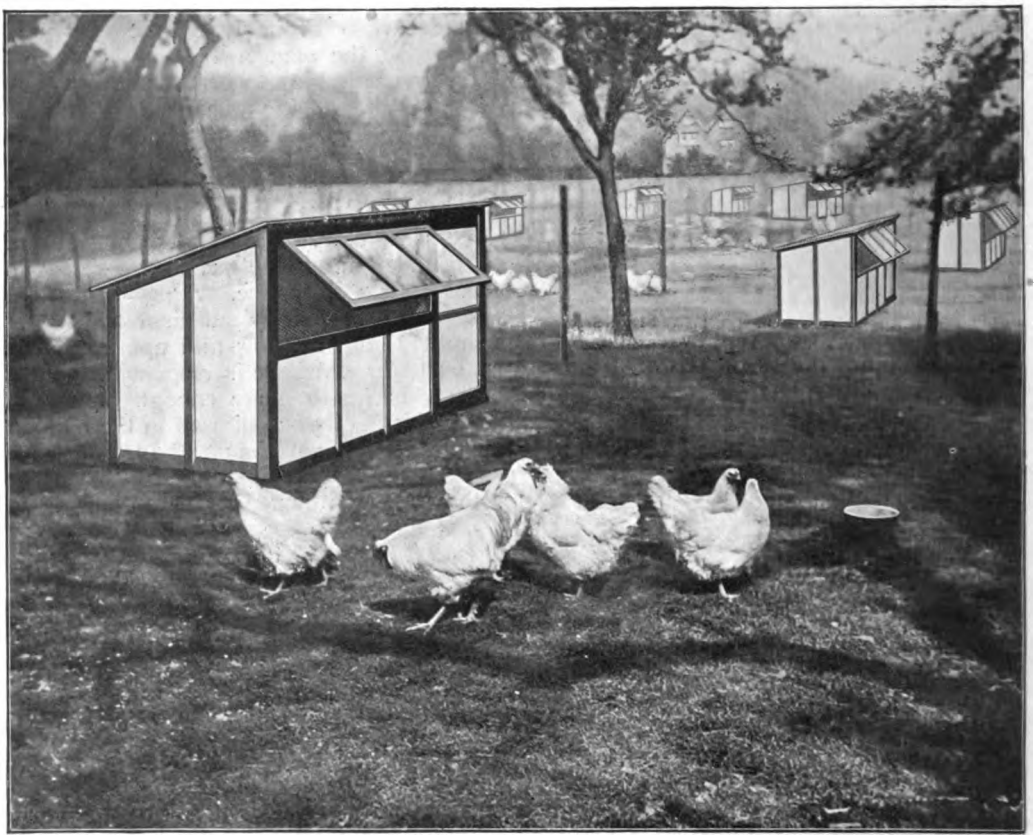
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Poultry Keeping on the Intensive System.

By H. H. HEAP.

THERE are but few hobbies which, while being full of interest, are within reach of everyone, and can also be made a source of profit, but one of the most important of these is Poultry Keeping. Even with conditions as they are to-day, poultry keeping can be made very profitable, but if it is to be so, we must have some understanding of scientific feeding and management, and the aim of this article is to provide the novice with reliable information so that those of my readers who know the value of eggs as a food but imagine that they are quite beyond their reach may be able to enjoy them, and that others may be helped to get rid of those mistakes of management which keep egg production so low.

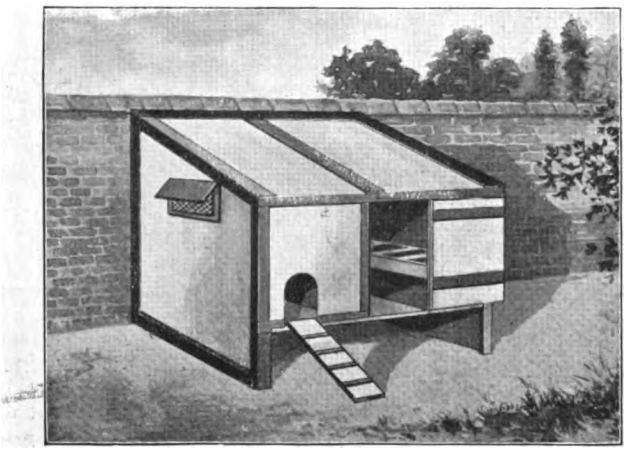


A MODEL POULTRY FARM.

The first necessary step is to provide a suitable house, and this should face south or south-east to obtain as much light as possible, for hens will not work without light, and without work we cannot have eggs.

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It is most important to have a dry, well-ventilated house, with a comfortable roosting place, well protected from all draught. The sketches show a house suitable for about ten to fifteen head of poultry, which can easily be made from asbestos-cement sheets by anyone at small cost. If no flooring is made the ground should be very dry and covered with fine ashes about three inches deep, and a trench should run around the outside to carry away all rain and damp. A wooden floor should always be covered with dry soil about two inches deep, then a layer of ashes to prevent leg weakness. The front of the house should have a wire screen to admit as much light as possible, and the cloth screen over it should be closed at night and regulated on cold, damp days; sufficient ventilation will be obtained through the cloth at night.



A "Backyarder's Type."

The house being ready, the nests must be lined with clean fresh straw, and hoppers for the food and a dish for fresh water provided. A dusting box about 18″ × 18″ × 6″ should be filled with fine ashes so that the hens may clean themselves, and the dropping board should be covered with fresh lime and ashes.

Fowls. Before deciding what breed of poultry to keep it is necessary to consider for what purpose they are required—whether for laying only or for laying and table use, and before buying, remember it will pay you better to keep a few birds from a really good laying strain and to feed them well than to have a larger number of an inferior breed.

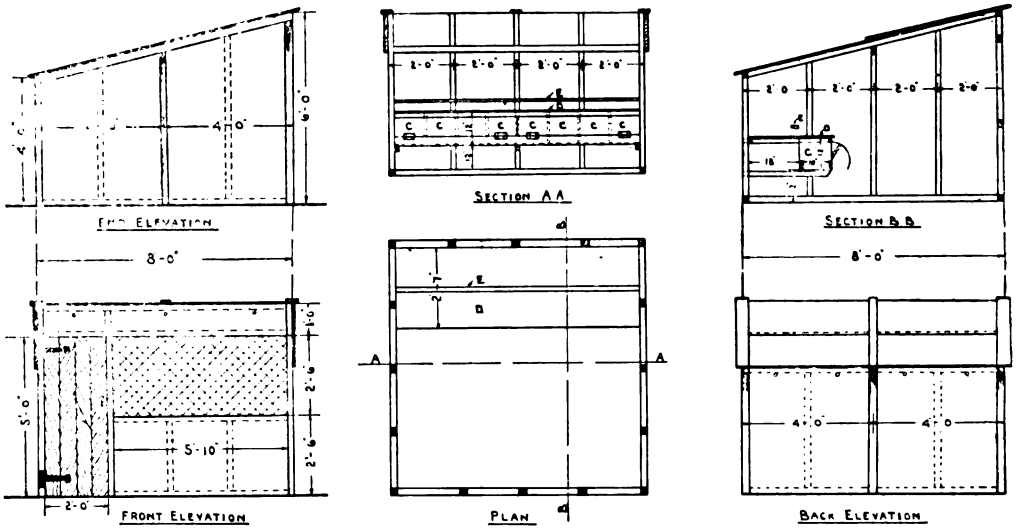
The most suitable breed for keeping on the intensive system is the Leghorn, preferably the White Leghorn, as they are non-sitters, and are more active than other breeds. They are the best layers, but are not very good as table birds. Next come the Mediterranean breeds, such as Anconas and Minorcas. If they are wanted both as egg and table birds, the Wyandotte, Rhode Island Red, Orpington, and Plymouth Rock are the best, but will require more careful feeding than the Mediterranean breeds, as they are inclined to be lazy, and easily get broody if improperly fed.

Method of Feeding. The great advantage of the intensive system is that fowls can be kept in a very small space instead of requiring the large amount of land which was at one time thought necessary for poultry keeping, as no run is needed, and so they are brought within the reach of many who live in towns, and may do well even in a yard. In a damp, cold climate such as ours, with constant changes of temperature, the hens must be kept warm and dry. The old saying that you must keep your hens' feet dry if you want eggs has a good deal of truth in it. The birds will also mature quicker and produce more eggs than if on open

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range, but it is of the greatest importance that they should be properly fed. Every variety of food necessary for egg production must be supplied to them, as they cannot forage for worms, insects, grit and lime, which they must have.

If we understand how eggs are produced we shall realise better why the correct feeding of hens is of such great importance. The egg is produced from fat by means of exercise, and so a hen cannot lay until she is sufficiently fat, and she cannot lay unless she takes plenty of exercise, therefore the aim of all our feeding must be to produce fat, but to prevent the hens becoming heavy and lazy so that they will sit about all day instead of working, and to do this we must give only light feeds in the morning to induce them to work, and a heavy feed at night to produce the fat; at night give them all they can eat and a little more to be there to encourage them to work as soon as they come down from their perches in the



PLANS AND DETAILS FOR A POULTRY HOUSE SUITABLE FOR 10 TO 15 HEAD, ON THE INTENSIVE SYSTEM.

MATERIAL REQUIRED.

FRAMING.	COVER STRIPS.	ASBESTOS CEMENT SHEETING.	NEST BOXES.
1 at 8ft. 0in. x 3in. x 2in.	5 at 4ft. 0in. x 2in. x ¼in.	FRONT:	1 at 7ft.8in. x 10in. x ½in.
5 at 8ft. 6in. x 2in. x 2in.	5 at 6ft. 0in. x 2in. x ¼in.	1 at 5ft 10in. x 2ft.6in. x ¼in.	2 at 7ft.8in. x 3in. x ½in.
7 at 8ft. 0in. x 2in. x 2in.	2 at 5ft. 0in. x 2in. x ¼in.	1 at 8ft.0in. x 1ft.0in. x ¼in.	1 at 7ft.8in. x 2in. x ½in.
3 at 6ft. 0in. x 2in. x 2in.	1 at 9ft. 0in. x 2in. x ¼in.	BACK:	2 at 3ft.10in. x 10in. x ½in.
1 at 5ft. 10in. x 2in. x 2in.	2 at 9ft. 0in. x 3in. x ¼in.	2 at 4ft.0in. x 4ft.0in. x ¼in.	4 at 10in. x 2in. x ½in.
2 at 5ft. 6in. x 2in. x 2in.	2 at 8ft. 6in. x 3in. x ¼in.	ENDS:	7 at 1ft.3in. x 1ft.3in. x ½in.
2 at 5ft. 0in. x 2in. x 2in.		2 at 6ft.0in. x 4ft.0in. x ¼in.	4 at 2ft.6in. x 2ft. x 1in.
2 at 4ft. 6in. x 2in. x 2in.	DOORS.	2 at 5ft.0in. x 4ft.0in. x ¼in.	
5 at 4ft. 0in. x 2in. x 2in.	4 at 5ft. 0in. x 6in. x ¾in.	TOP DROPPING BOARD:	PERCH:
2 at 3ft. 0in. x 2in. x 2in.	2 at 2ft. 0in. x 6in. x 1in.	4 at 4ft.6in. x 4ft.0in. x ¼in.	1 at 8ft. x 2ft. x 1½in.
		1 at 7ft.8in. x 3ft.0in. x ¼in.	

EXPLANATORY.

The Plan shows the timber framing to which the asbestos-cement sheets are fixed; also dropping board D and perch E. The dropping board is two feet from the ground and projects three feet from the back wall. The nest boxes C (section AA) are arranged underneath on one inch strips fixed on each wall and centre post of dropping board, 12 inches from the ground Nest boxes are made to slide in and out, and have a hinged front (section BB). The perch should be fixed six inches above the dropping board. It is a good plan to fix a hanging cloth for dropping over the wire screen at night (see front elevation). In the latter, and in the back and end elevation the dotted lines indicate the position of framing to which the asbestos-cement sheets are fixed.

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morning. Many people believe that hens will not lay without a good hot meal in the morning, but extensive experience proves that better results may be obtained by making them warm themselves by searching and scratching in the litter for every possible grain of corn.

Method of Feeding. The following table of foods has been personally and extensively used by me, and while it looks expensive and extravagant, will be found to have such good results that it will not prove so in the long run, and if the weekly food bill has to be limited, regulate the number of hens accordingly, and not the amount of food you give them.

First see that you have a good covering of straw or other loose litter about six inches deep on the floor of the house, and feed all hard grain into this to make the hens scratch. If not given too much, the hens will work in this all day instead of standing about and getting cold, as they never know when they have found the last grain.

First Feed 9 *a.m.* A limited supply of whole oats in the litter (about half a pint to 12 or 15 hens).

Second Feed, noon. Mash, either wet or dry, given in the hoppers, composed of bran, sharps, indian meal, clover or alfalfa meal, meat meal or meat scraps, and occasionally fish meal and linseed meal.

Either precede or follow this by a good supply of green food such as sprouted oats, lettuce, cabbage, or other vegetables or boiled swedes, mangel-wurzels, etc.

Third Feed, one hour before dark. Mixed grain as much as the hens can eat. Indian corn, wheat, barley, oats, buckwheat, cockle seed, sunflower seed, makes a very good mixture. In Winter it should contain at least half indian corn and one-third wheat.

A supply of clean water, and ground oyster shells and lime, and grit with a little fine charcoal, should be placed where the hens can use it at any time, the shells and lime to form the shells of eggs, and the grit and charcoal as an aid to digestion.

Under these conditions, each hen should produce about 150 to 200 eggs a year. They should be killed at the end of the second year unless required for sitting, as an old hen actually eats more than a young one and will produce very few eggs. A few new pullets should be obtained each year in order to maintain a regular supply of eggs.

Perfect cleanliness is of the greatest importance, or the hens will become diseased. The nests and perches should be limed and disinfected every week, but the straw litter, if kept dry, will disinfect itself, and need only be changed every six months or so.

The Editor will be pleased to furnish the name and address of the nearest supplier of Asbestos-cement Sheets, to those readers interested and wishing to build.

ASBESTOS BAGS FOR AERIAL MAIL.

The Post Office Bureau of Equipment and Supplies has for some time past been preparing to equip its aerial mail carriers with Asbestos mail bags, and by the time this issue of " Asbestos " goes to press, 20 of these bags will be installed, a sufficient number to equip all mail-carrying planes in the service at present.

The bags are made of a good quality Asbestos cloth ; they have been tested with a gasoline blow torch, it being found that even this great heat will not scorch paper inside the bag.

The cloth from which these bags are made was furnished by the Keasbey & Mattison Company.

—*Asbestos (Philadelphia).*

Poet : " No ; the editors never burn my poems."

Friend : " How is that? "

Poet : " I write them on sheets of asbestos."—*Children's Newspaper.*

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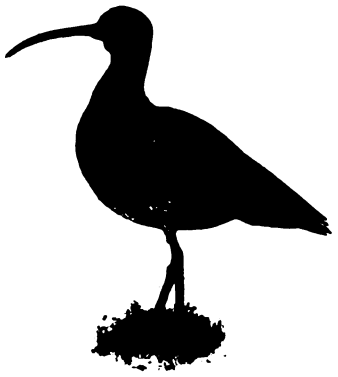
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Nature Talks.

Some Birds of our District.—II.

By B. R. WALMSLEY.

WHILST crossing the moors on the last Sunday morning in June, enjoying the peaceful solitude and wide expanse of the moorland, the intense silence was broken by a peculiar whistle —something like a farmer whistling for his dog, only more mellow in tone and ending with a rising inflection.



THE CURLEW.

I was startled for a moment; then the whistle was repeated, and I recognised it as the call of the curlew. It is a note once heard that is seldom forgotten.

A distance in front of me, poised in mid-air and quivering with nervous excitement was a curlew. He was calling to his mate who was hidden in the grass. The two following Sundays this was repeated.

It was their breeding ground. On a tuft of purple heath grass was a rudely made nest containing four olive green eggs blotched with brown. How those eggs are loved and cared for! That dear little home in a wilderness of moorland, hidden away as much as could be from the eyes of intruders.

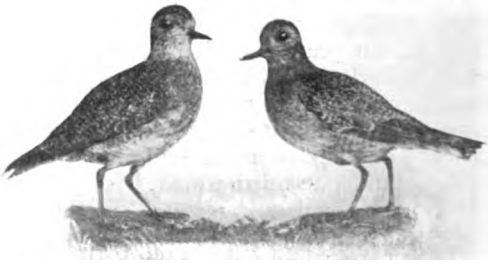
All wild creatures at birth, marriage, and death seek solitude. Their love for their young and the fear of harm make curlews very apprehensive of danger. It has been written of the curlew:

"Thy bill is but the bugle to breathe the first alarm
"For all the feathered regiments to manœuvre out of harm."

He is always the first bird to give warning of any approach.

It is said by ornithologists that he can hear an approach when half a mile away. Curlews have long bills (five to seven inches in length) and long legs, which give them a peculiarly ungainly look. Their food is largely insects. As the hen is sitting on her nest she will dig her long bill into the sods around her and wipe each grass blade from bottom to top with her bill, jerking her bill over her back as it comes off the top, thereby getting all the insects clinging to the blades of grass.

The curlew is very common on the Lancashire moors, remaining with us from June to September. Last year, on account of the very fine Autumn we had, they remained until the end of October. In Winter they collect in flocks at the seaside, usually at the mouths of rivers or muddy flats, and live on what the tide has left behind, and the worms and insects they find by digging their long bills deep into the mud.



GOLDEN PLOVER (Winter Plumage).

The prettiest bird of our moors is the golden plover in its Summer plumage.

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Its head and back are a beautiful golden yellow with a brown stripe, and over each eye a white line extending down its neck, the breast and underparts of the body being a deep rich black.

It is sometimes seen amidst a flock of lapwings, and is easily distinguished by the sun's light reflected from its golden coloured feathers.

In nesting time it is extremely shy and nervous, and is consequently very difficult to photograph. A photograph in Summer plumage can be seen in Oldham Museum. In Winter its plumage changes to dark brown, as seen in my photograph.

Wild, happy birds that all day long have run about on glad little feet, delighting in Nature's abundance, and calling brightly to their fellows as they glide in and out in eager search for food through the lights and shadows, enjoying that feeling of happy freedom which only wild things know! Pretty golden plover! So symmetrical in form and beautiful in colour, so exquisitely adapted for a life of refined happiness and affection, to look on you is ennobling.

Most birds are very sympathetic with their fellows. Last Summer I saw a starling with its bill trapped between two telegraph wires. It had been there some time, in wires that cross the field above the road at Lowerfold. A number of birds were flying round and round it in sympathy, seeking how they might render aid, but they were helpless. I succeeded in releasing him by throwing a piece of hawthorn trunk and knocking the wires apart.

A friend tells me of a sparrow he saw recently off Spotland Road, hanging head downwards from a hawthorn bush with its leg trapped. The neighbours told him it had been there all day, and that the other birds had been bringing food to it. He obtained a step-ladder and released it. Its leg was hanging by a thin fibre of skin, which he severed, painted the stump with iodine, kept it warm until next morning, when it appeared all right and flew away, hopping on the one leg.

A sympathetic character is not common to all birds, however. One of the most selfish, gluttonous, crafty, thieving birds in our district is the magpie. It can be seen either Winter or Summer any day round Lanehead, Ashworth Moor, Bury



MAGPIE.

Road, or behind "A" Section Allotment. It is commonly called "Pyenot." Magpies never fly far without a rest (about 50 yards or so). They usually go in pairs. One flies, and in about 20 seconds the other follows.

The magpie is a heavy-looking bird, and dark-blue and white, with long tail. He is an arrant thief, fond of stealing other birds' eggs, either big or little. If the egg is too big for its bill to span it will pierce its bill through it and carry the egg skewered in that way to its nest. It gets may a thrashing when caught, by waterfowls especially, but poor blackbirds and thrushes are no match for it.

If you examine its crop you will find a quantity of egg-shells, especially blackbirds and thrushes, a vast quantity of beetles of all sorts, wire-worms, young birds, and mice that it has killed and eaten. It belongs to the carrion crow family (corvidæ), who are coarse eaters.

The Summer before last I saw two boys climb that tall birch tree behind Section "A" Allotment. One boy gave up the climb, the other boy reached the magpie's nest. There were two young magpies in it. The magpie builds an arch of thorns over its nest, and has only one entrance. As it happened the boy was on the side of the opening, so the second bird could not escape whilst he put the first in his pocket. Magpies appear to be increasing in number locally.

Like the falcons and hooded crow mentioned in my last article, they have no song, and one is reminded of the truth of Shakespeare's words:

"He who has no music in his soul
Is fit for murders, tragedies and spoils."

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Some Summers the kingfisher pays us a visit, when he may be seen at Redbrook. I understand the one in the photograph was got here. I cannot quite understand its presence at Redbrook particularly—are there any fish left there? Or does it feed on the leeches and May-flies? It is a pretty little bird, red, blue, and green on its back and a browny chestnut underneath. It has a fine kingly head, strong stout bill, and short tail. It loves to flit along streams catching fishes, is very quick in his movements, and seldom fails to secure what he dives for. Its nest may be found in a hole in the river bank.



KINGFISHER.

(To be continued.)

DEATH OF MR. WILLIAM BARLOW.

IT is with very much regret that we have to record the passing away of our old friend Mr. William Barlow, of Glenroyd, Spotland, which sad event occurred at his residence on Monday afternoon, January 26th, in his 58th year.

Mr. Barlow had been employed by the Company about nine years as Outside Superintendent for "C" Department, and had charge of the men executing applied work contracts for covering boilers, steam pipes, etc.

His duties took him away from Rochdale to various parts of the country, and his consistent good nature made for him very many friends, who held him in high esteem.

Thoroughly conscientious and a most reliable employee of the Firm, he deserved the explicit trust reposed in him.

Mr. Barlow was very keen on Church work in connection with St. Clement's, and was a regular attendant when he was home during the week-ends.

He had not been at all well for some considerable time, but the illness which preceded his death was of about twelve weeks' duration, during which time he rallied considerably, and it was hoped that he would recover, by reason of the devoted nursing of Mrs. Barlow, to whom we extend our deepest sympathy.

The burial service (January 29th) was conducted by the Rev. T. J. Benstead at St. Clement's Parish Church, interment afterwards taking place at Brooklands, near Manchester.

Many beautiful wreaths were sent by the deceased's relatives and friends, and the Firm was represented at the funeral by Mr. Rupert Turner and Mr. A. E. Ludford Ellis.

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Home Notes.

COUNCIL OF EMPLOYEES.

At a meeting of the Council, held on Thursday, March 25th, it was remarked that the members of both Committees—Workers and Officers—were out to thoroughly understand one another's points of view. There were 24 members present, representing both Committees. Mr. Spiller presided.

On the invitation of the Committees, three members of the Executive were present—Mr. H. R. Turner, Mr. J. Brierley, and Mr. B. E. Williams. Mr. S. Turner was absent on business.

The question of the continuation of overtime after the end of March was reviewed, Mr. Brierley emphasising its need at this juncture.

Mr. H. R. Turner thanked the meeting for what had already been done, and was prepared to abide by the Council's decision in the matter.

During the discussion reasons were advanced why overtime should be discontinued, which found general acceptance, but no resolution was tabled.

The subject of the constitution of the Council was then raised, and Mr. D. Healey (Workers' Committee) read a copy of the rules governing the Employees' Council at the National Projectile Factory, Dudley. Mr. J. Brierley, on behalf of the Executive, invited the Chairman of each Committee to accompany him to Dudley, and the offer was gratefully accepted.

The method of election of members to the Council was next discussed. As there was a certain amount of difficulty in securing nominations for the last election of the Workers' Committee it was thought that some better means could be adopted. Mrs. Cudworth proposed that: "The Chairman of the Council call meetings in the various Sections of the Works from which representatives are required, and that with the help of the Chairman of the Workers' Committee, together with the co-operation of the foremen concerned, the objects of the Workers' Committee be fully explained and requests made for nominations."

An amendment by Mr. L. Clegg proposed "That the Chairman of the Council, together with the Chairman of the Workers' Committee, address meetings of the workers where necessary, with a view to explaining the objects and aims of the Workers' Committee and securing nominations."

Mrs. Cudworth withdrawing her motion, the amended resolution was passed, it being understood that whilst the foremen were not specifically mentioned, they would do all in their power to assist and prepare the way for such meetings.

It was suggested that an annual gathering of a social character, at which the objects and aims of the Committee could be explained, would go a long way towards securing greater co-operation on the part of the workers. Mr. H. R. Turner and Mr. J. Brierley supported, and it was decided to leave the arrangements in the hands of a small Committee, comprising the Chairman and Secretary of both Committees, together with the Chairman of the Council.

Mr. Horbury (Workers' Committee) reported that 1,459 War Savings' Certificates had been taken up in the new clubs.

Mr. L. Clegg raised the subject of lost time, and the Chairman reported that the Employment Division had already arranged to prepare the analysis of lost time in greater detail in order that the causes may be more readily traced.

Starting time in the morning was also discussed, but it was decided to postpone its further consideration for the annual gathering.

Replying to Mr. Horbury, the Chairman said that the new War Savings Clubs would commence immediately after the Easter holidays.

The Chairman then gave a resumé of the work, which was of an interesting and encouraging character.

Mr. H. R. Turner, replying to a vote of thanks, spoke of the necessity for increased production, and of closer co-operation between Capital and Labour in the interest of all.

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RUBBER-MAKING DIVISION.
BENEVOLENT SOCIETY.

It would not be a surprisingly new remark to exclaim: "See what can be done by co-operation and helping oneself" —not in Rochdale!

Founded on January 8th, 1919, the Society has just seen its first anniversary, and the Committee's report makes interesting reading. The fund at the commencement stood at nil, with a membership of 33, and this is a record of the Society's twelve months' growth:—

1st Quarter—126 members, 15/- paid in benefits, £10 19s. 8d. in hand.
2nd Quarter—161 members, £12 19s. 7d. paid, £13 16s. 9d. in hand.
3rd Quarter—187 members, £14 18s. 4d. paid, £21 8s. 3d. in hand.
4th Quarter—220 members, £26 0s. 10d. paid, £24 8s. 4d. in hand.

It will be seen the total payments, covering benefits and grants, amount to £54 3s. 9d., not a bad year's work for one section of the factory.

The first annual meeting was held in the Pioneers' Hall on January 8th, and it was decided, upon their application, to admit to membership of the Society workers in the Sample Room. This decision points the way to workers in other Divisions, as it would be preferable to strengthen a Society already on its feet rather than duplicate the organisation by founding other Societies.

Whether or no, the Secretary, Mr. T. Chadwick, kindly offers to give every assistance and information to any Division interested.

In the meantime, the following extracts from the rules may prove useful: Contribution, 2d. per week, benefits commence after 8 weeks' contributions; 2 weeks' illness qualify participating members to benefits; scale of benefits, 10s. 1st two weeks, 7s. 6d. next four, 5s. next six, providing the funds allow. Benefits are paid to members who have been injured in the war when they are absent from work due to the injuries.

PRESENTATIONS.

An enjoyable evening was spent at the Ritz Café on Friday, January 9th, when the Council of Employees presented Mr. A. Rowland-Entwistle with a salad bowl, inscribed in terms of appreciation of his services on the Council.

Mr. David Healey, as Chairman, gave an interesting account of Mr. Entwistle's work on behalf of the Workers' Committee, which showed that although the Council has not been long in existence it had undoubtedly done some very useful work for both the firm and the employees.

The presentation was made by Mr. Frank H. Hampson, who, speaking on behalf of the Officers' Committee, said they were under a deeper obligation to Mr. Entwistle than the Workers' Committee.

During the evening songs were rendered by Miss Z. McCracken, Miss H. H. Rowley, Miss D. Smith, Mr. J. Cross, Mr. C. Dewhurst, and Mr. A. R. Entwistle. Auld Lang Syne suitably terminated the proceedings.

On January 19th the staff met at Julia Street Club to do honour to Mr. Entwistle, the presentation in this instance taking the form of a silver cigarette case and plated fruit dish.

Mr. Spiller acted as Chairman, and Mr. Allen, in making the presentation, traced the origin and history of the Employment Division in an interesting and informing manner.

The remainder of the evening was devoted to dancing and supper.

Mr. A. E. Ludford Ellis was not permitted to change his habitat unmarked, though he is not leaving the organisation. He has taken up a managerial position in Manchester under the Amalgamation. A silver cigarette case was informally conveyed to him, and in returning his acknowledgments, he very characteristically says "Coming amongst you as a stranger in a strange land, I have always received the kindest consideration, and although doubtless at times my Cockney ways may have been a bit trying, I know that I have made many good friends." Yes; he "woke the alley up a bit!"

CHORAL SOCIETY.

We regret to have to report the suspension of this Society—we hope temporarily only. The Secretary, Miss Rowley, reports a lack of interest on the part of known vocalists in the Office.

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Probably it has not occurred to them that they owe a duty to learners in return for that discharged by those who taught them. This little reminder, we hope, will have its effect. The balance of funds in hand, £7, has been given to the Crippled Children's Home.

STAFF SOCIAL.

This took place at the Provident Hall on January 23rd, and was a great success socially. The room was tastefully decorated, and the proper degree of warmth of feeling essential to the success of these affairs was very much in evidence. Being leap year, the ladies exercised their prerogative in a waltz, and another dance which engendered high spirits was the American One-step. A very full programme was danced from 7-30 to 11-55, old and new dances being included, and refreshments were served during the evening. Mr. Wilfrid Wild acted both as secretary and M.C.

ST. VALENTINE'S BALL.

This successful affair was promoted by the Employees' Council and took place in the Town Hall on Saturday, February 14th. Fancy dress was optional, and the ladies presented a bright array, making the task of judging a difficult one. This fell to Mr. and Mrs. J. Brierley.



"SCOTTY," MISS M. MERCER."

The winners were: Best Character Costume: Lady, Mrs. Duggan (Jester); Gentleman, Mr. J. Briggs (Cowboy). Neatest and Prettiest Dress: Lady, Miss Baskeyfield (Cuban Lady); Gentleman, Miss Mercer (Scotsman). Most Humorous Costume: Lady, Mrs. Holden (House to Let); Gentleman, Mr. George Carruthers (Cabbages). The prize money was kindly given by the Directors.



"CABBAGES," MR. GEO. CARRUTHERS.

As a result of the effort £18 10s. 10d. has been divided equally between the Rochdale Infirmary and the Central Sports Committee.

GIRL GUIDES.

5th ROCHDALE "TURNERS."

On February 24th the Company was inspected by Mrs. S. P. Ormerod (late Captain of the 1st Rochdale Company) and Mrs. J. Lord, Rochdale District Commissioner.

Several of the girls were present at Messrs. J. Bright & Bros.' Club Room on February 28th to witness and judge Guides who were being examined for their Entertainer's Badge. A very pleasant hour was afterwards spent in a social manner.

This year the Guides have had three Church Parades to St. Stephen's Church, Ball Street, where they have been made very welcome by the Rev. J. D. Smith.

LADIES' HOCKEY CLUB.

Our note of remonstrance and courage which we were induced to insert in our last issue upon the rumoured disbanding of this Club has borne fruit—we feel quite proud of ourselves. In spite of the February 7th "swiping," the Ladies have no cause to be discouraged in the

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record of the following scores. The last report of one match won only in four played has certainly been improved upon in four won out of seven played.

Jan. 3—Castlemere Ladies...(away)...Won, 2—1
,, 10—Armstr'ng Whitw'th.(home)...Won, 5—0
Feb. 7—R'dale Second'y 2nd.(away)...Lost, 1—10
,, 14—Armstr'ng Whitw'th.(away)...Won, 4—1
,, 21—Crompton Ladies.....(away)...Won, 1—0
,, 28—Todmorden O.S.A...(home)...Lost, 0—4
Mar. 6—R'dale Second'y 1st..(away)...Lost, 0—5

MEN'S HOCKEY CLUB.

As if to point the moral, the Men's Hockey Club have fallen from their high estate reported in our last issue. We must ask them to turn up the report of the Ladies' Club in the latter, and take the advice there given to themselves. Out of nine games played they succeeded in registering two wins only. The full record to date stands: Played 17, won 7, lost 7, drawn 3, with 47 goals for and 41 against. Our comment is that it is far from a hopeless record.

HOCKEY DANCE.

On Friday evening, March 12th, at the Provident Hall, a combined dance given by the members of the Ladies' and Men's Hockey Clubs proved a great success, and a thoroughly enjoyable evening was spent by everyone present. Dancing proceeded from 7-30 to midnight. The proceeds from the dance will go to help defray Club expenses.

The presence of Trafford Park visitors was noticed with pleasure, and it is to be hoped so excellent a precedent will become a standard feature of these gatherings.

Messrs. D. Maddox and O. Price are to be congratulated upon their effort.

FOOTBALL.

The Secretary writes: "Our series of Saturday matches is now at an end, and the results are not discouraging. We have played in all 14 matches, won 7, lost 5, and drawn 2, with a goal average of 30 for any 25 against.

"We are about to commence our games in the Castleton, Rochdale, and All Saints' Workshops' Competitions, in which we are hoping to do big things."

ALLOTMENTS.

Work on the Allotments, generally speaking, is well in hand, and with prospects of better weather ahead together with "Summer time" much may be expected.

A number of transfers have been effected, the previous tenants having resigned for various reasons, but there are still a few plots vacant on "B" section.

Allotment holders are requested to bear in mind the Annual Show, and to endeavour to make it even more successful than the last. This can be done, in large measure, by arranging beforehand the disposition and quality of seeds, etc.

It is hoped that as many as possible will avail themselves of the privilege, granted by the Directors, to plant fruit trees on the allotments. Care should be taken to conform to the regulations.

The Committee wish to call attention to the condition of the barrows. These were generously provided by the Firm, and their present treatment leaves much to be desired.

The Treasurer would like an early settlement of all outstanding accounts for seed potatoes.

A warning, which cannot be too often repeated, is: "Wart disease—notification is compulsory."

TRAFFORD PARK.

A successful dance took place at the Eccles Town Hall on March 2nd, in aid of an injured workman, etc. The attendance of both staff and workpeople created a record, and a most enjoyable evening was spent.

The room had been beautifully decorated, under the supervision of Miss Hughes, assisted by Miss E. Smith and Miss Robinson. The dance programme was ably carried out by Mr. W. A. Amor.

Although not a fancy dress ball, the variety of costumes was striking, and the small prizes given were keenly contested for.

Dancing proceeded from 7-30 to 1 a.m., to the music of an excellent band, and the evening passed merrily, with a break for refreshments.

The cause for which the dance was held benefits to the extent of £10 to £15.

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BRITANNIA OF THE MARKET-PLACE.

"What is this wondrous sound I hear
As of some huge machine—
Of great wheels slipping into gear,
Deep music echoing far and near,
Persistent, stern, and keen?"

That is the sound of England's Trade
Which never yet was stilled—
Sound of a thousand anchors weighed,
Sound that the world has thrilled.

Sound of unnumbered ships at sea,
Of cables rattling home,
Of looms that murmur ceaselessly
Beneath her cloudy dome;
Of furnace-lands whose smoky veils
Roar, mutter, hiss, and glow;
Of cranes that swing their balanced bales,
To yawning holds below.

Sound of the mills, the lathes, the cars,
Of dockyards, railways, fleets,
Of foundries where on white-hot bars
The great steam-hammer beats;
Of threshing-floors and factory bells . . .
This is the splendid sound;
Over the world it spreads and swells—
Great Britain's strength unbound!

WILFRID L. RANDELL.

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