From Page 1 – 6 –

Mr Green working at Messrs Barnes & Co.
Mr Clarke – Foreman Stillman at
Messrs Brooks, Simpson & Co.

Chemical Section 35 includes. (Hands employed)

1. Manufacturing chemists – Alkali manufacturers etc. 2178
2. Drysalter. 155.
3. Oil Paint, Ink. Blacking manufacturers 1391.
4. Gun Powder – cotton – explosive manufacturers. 76.
5. Fuses – Fire works etc. 2036.

Auxiliary.

1. Hardware materials.
2. Match – making.

Section 35. Chemicals. Dyers & Cleaners.

Names.	Occupation.	Page.
~~Spatman & Sons.~~	~~Dyers & Cleaners.~~	1.
Messrs May & Baker Garden Wharf. Battersea	Chemical manufacturers	7.
Messrs Carless, Capel & Leonard. Hackney Wick.	" "	11.
Messrs Forbes, Abbott & Leonard – E. Greenwich.	" "	14.
Messrs J. Lawes – Bennet & Co. Millwall –	" "	19.
Messrs Burt. Boulton & Haywood.	" "	23.
British Alizarine Co.	Alizarine Dyes "	25.
Mr B. Bedow.	Blacking manufacturer.	29.
Messrs Burroughes & Wellcome.	Fine Drugs " "	31.
Mr H. Hemingway of Marsdgate Lane. Stratford.	Colours & Insecticide.	36
Mr David Howard of Marshgate Lane Stratford.	Quinine makers.	39.
Mr J. Bartholomew of Bryant & Mays	Bow.	43.

Name.	Occupation	Page.
Brooks, Simpson & Spiller of Hackney Wick.	Aniline dye works.	46.
Messrs. Hemingway's works.	Colour & insecticide.	52.
Mr W. Crowder. Anglo Continental Guano works.		55.
Professor Watson Smith. of London University		57.
Mr E. Johnson of Brown Chemical works. (sulphur).		60
Mr C. Umney of Wright, Layman & Umney & Co. manufacturing Druggists		65.
Mr Varney working for Allen & Hanburys. Bethnal Green.		67.
Miss Christy do	do. do.	68.
Mr J. G. Hanburys of Allen & Hanburys Bethnal Green.		69.
Messrs Burgoyne. 16 Coleman St. Chemist & Druggists. manufacturing		72.
Salvation Army match Factory Hackney Wick.		75.
Thomas Tyrer & Co. Sterling Chemical Works Abbey Lane Stratford		76.
Workman in Grace's White Lead Factory. Bethnal Green		83.
Mr Robbins. Acid Distiller. Bethnal Green.		85.
Mr H. Grace. of Grace & Son. White Lead Factory Bethnal Green.		88.
Mr Stacey. Relieving Officer. Stepney Union.		90.
Mr Murphy - working at Johnsons White lead works in Stepney -		92.

Products of Firm.

hrs of work

Regularity.

Three classes of labourers.

Wages.

Methods of training

Mr Green. Foreman stillman. working for Messrs Burns & Co. Hackney Wick E.
Bases of analine dyes. by distilling spirits from oil. & then mixing so as to produce nitro. benzol
56 hrs a week. 10 hrs = 12 - 2 every day except Saturdays.
The work is regular all the year round & there is never sufficient slackness at any particular season of the year to necessitate turning off hands.
1 Stillmen. 2. Manufacturing chemists. i.e. the hands who do the actual mixing of the larger quantities of spirits etc. in accordance with orders issued fr. the laboratory. & 3 unskilled labourers.
The first class earn from 25/- to 32/- a week all the year round. & this is the highest paid.
The second class get about 24/-
3. 22/- or rather less.
There are no particular systems or methods of training. altho' considerable knowledge

care

care & attention is required - especially in a foreman. ~~without~~ Unless great attention is bestowed at certain periods during the mixing process, there is considerable danger of an explosion. In spite of this the only way of teaching seems to be entirely happy-go-lucky. Men are picked up out of the yard to fill a vacant place in the distilling or manufacturing workshops according to the fancy of the foreman or manager.

The present generation of foremen have largely gone thro' the mill of the old apprenticeship system. They have some knowledge of the processes & their meaning. But it seems to me, from what I was told by Mr Green & Mr Clark who follows, that there will be considerable difficulty in replacing them by men of sufficient skill & general technical knowledge.

Thus a foreman is given a certain quantity say 150 gallons of Benzol spirit & told to convert it by certain admixtures into 165 or 170 gals

of

Irregularity in Chemical manure manufacture.

of nitro-benzol, which is again converted into 140 gals of analines. He knows the proportions & what effect they produce. He knows the necessary limit of heat for every process. But there is nothing to teach the hands working under him any general knowledge beyond their own especial business. To be an efficient ordinary hand requires considerable care. It would require about 6 months.

Mr Green himself has been apprentice for 6 years.

The greatest irregularity of employment exists in the Chemical manufactures as they have a great demand in the spring & have to work very hard & take on a extra number of hands in winter. Mr G. did not know what these did in summer, but thought they took to various jobs. Hop picking, dressing work. ~~[illegible]~~ etc.

18 July.

Methods of Training.

Mr Clarke. Foreman Skillman. Hackney Wick.

Brooks, Simpson & Co. Analine & Primaline Dyes.
the latter for cottons (?).

The regular hours are 54 but there is frequent overtime up to 80 hrs at times.

6d an hour wages paid to skilled hands who would earn from 28/- upwards in proportion to overtime worked.

Like in the preparation of bases for the dyes. the actual production of the dyes requires very considerable brightness & above all care & attention.

It would take about 2 years to learn one branch of the business thoroughly.

There are no regular apprentices. The training is carried on in the same happy go lucky way before described.

Work is regular. all the year round. & there is not any necessity to discharge hands.

The gases which escape are no doubt somewhat poisonous & many men are injuriously affected during the first three

Saw Mr Clarke again on 20 July.
He had been doing a tremendous amount of overtime. nearly 3 days - viz 27½ hrs. a day being counted as 10 hrs.

As regards the preparation of nitric acid, it is, of course, more or less dangerous especially if men have to inhale the fumes. But this is rarely necessary, on the whole, on the way it is carried on now. There is very little danger attaching to it.

He did not remember a single case of illness that might be attributed to this process

three years of their coming into the business. If they pass that time successfully, they probably remain in good health and are able to work up to a good age - but very few men can go on working at this work over 60 - and when their health does fail, they generally break up very quickly.

The rents in the neighbourhood are lower than in ~~most~~ parts of London but still they are very high in view of the accomodation afforded.
The "Building" Act has had a good effect in one way - in so far as it has made the jerry-builder more or less a thing of the past. But the result of his extinction is both overcrowding & an increase in rents - for there is no-body at hand to build a house as soon as or before - the demand for it springs up. If people build expensive houses they live to be absolutely sure that they will let at once & for

a

20 July.

use of the respirator, as it had caused such that he had hardly been able to sleep at time the arsenic entered into a mans system. stuff from the hot stove to the machine for longer than most men. The new Govt regulations such as the necessary supplying of overalls,

a good return.
Houses that let 10 or 15 years ago for 10/- now went for 12/-
It was difficult to get a floor of 3 rooms for less than 5/- in some cases they were 7/6-

---

Mr John Dear. Gainsboro' Rd Hackney Wick. working at Burgess' Colour works.
Its same as the rest. about 56.
He had been working at emerald green making all thro' the winter. but had been obliged under advice of the doctor to give it up & go on to something else. that was not deleterious. He had been unable after a certain time to continue the extreme irritation round the nose a month right. There is no doubt that after a certain especially (?) those that had to carry the dried grinding. He has resorted the injurious effects were very useful in the unhealthy trades. acidulated water to drink. washing utensils etc.

Messrs May & Baker. Garden Wharf. Battersea.

The men working at this factory may be divided into 3 classes

1 Foremen - earning from £104 to £156 a year.
2. Trained labourers earning from £1 up to £2 a week.
3. Untrained - acting as porters etc in the yard. from whom the trained are mostly recruited up to £2.

Piece-work is the general rule ~~[illegible]~~ ~~[illegible]~~ and work is fairly regular all through the year - tho there are variations of the product in accordance with seasons - e.g. Camphor. which is prepared mostly in spring for the summer demand when people begin putting by winter clothes & furs. But as soon as this slackens there is something else to take its place. so that there is never any necessity for turning off hands.

There is no other distinct employment into which men shift, but they do

more

Method of Training

move to some extent from one branch to another as occasion requires.

Trade is not very flourishing just at present: it was better before 1891.

This is attributable to foreign competition especially German, which is very severe in many branches. The Germans do much more to push their goods abroad than English manufacturers care to do. & they are always ready to adapt themselves to the requirements of the market.

There is no regular method of training. but boys are taken in to go light work e.g. bottle washing. & then the ~~regular~~ common labourers work in the yards. If a young fellow is smart he is taken into the workshop & taught as occasion arises and thus rise from unskilled to skilled labourers. About 2 years training would be necessary to teach a man enough to earn the top wage as a skilled chemical labourer. This is if he is sufficiently intelligent & careful. Great care is naturally

required

required as any mistake in the degree of heat used in preparing chemical substances may cause the loss of much valuable material.

The skill required consists mainly of steadiness of hand, care, a general intelligence.

The skilled men are are taught to do their work by older men under the direction of the foremen.

Drink has greatly decreased in the factory of late years. If fact most stringent regulations are drawn up with regard to it, as it wd be evidently fatal to have a man working upon such delicate & sometimes dangerous material whose head was not perfectly clear.

Rents in that neighbourhood are rather high, so that the majority of the men live at Wandsworth or Peckham & make use of the workmen's trains.

The hrs of work are pretty regular with a summer, a little overtime is done.

Messrs Carless, Capel & Leonard. Hackney Wick

Oil refiners & distillers of various mineral spirits used in different manufactures. This firm is principally concerned with oil distribution for the lighting of houses throughout the Town. There have been the competition in the Anglo American Oil Co. which distributes American oil, while C.C. & L. sell wholesale Russian oil imported by Rothschilds & Sons firm. In summer they make use of about 10 cars & horses which own. but in winter when the principal part of their business is done they hire on another 40 or so. who during the summer work for pleasure parties or any odd job they can get.

Besides this they distill spirits of naphtha & petroleum for a variety of purposes.

1. Used for removing the resin (?) from india rubber & so giving 2nd class rubber the durability & value of the best quality.

2. For strengthening the candle power of gas.

gas raising it to the regulation power which is that of 16 candles – Newcastle coal produces gas of 15 candle power. The spirit distilled at Messrs C.C. & Co produces a strongly inflammable gas which is mixed to the ordinary coal tar gas, and strengthens it up to the point required.

Anæsthetic sponge ether is also distilled here for use in hospitals.

These are the two branches of work in the factory.

1. Distilling spirits –
2. Refining oil –

The two men looking after that part of the business as skilled hands, get about £1-10 a week wages. With houses & coal forms a contribution made for them to a benefit club.

3. The Carmen & Labourers get about 25/- to 30/- a week. being £1 regular wages – the rest overtime.

The factory work is never interrupted. There is regular work for all the hands employed there all the year round, as if one thing may be made for one season, another

A good deal of care & intelligence is required for the skilled work. A girl 2 years would be necessary to learn the work

is required at another.

There is not much difference between the state of trade now & in 1891. The refining & distilling business keeps much on the same level.

I could not find out that there was any system of training whatever on the premises & was led to believe that they only look on men to do their skilled work after they had qualified by a certain amount of training elsewhere.

There is nothing unwholesome about the work; nor is there anything which wd oblige men to give it up early in life. The manager is a very old man (?).

The labourers in the yard, who have to do the heavy work begin to go down hill about 55.

Hours.

Hours in winter 8½ per day.

Stillmen & boilers work 12 hrs. — 2 for meals.

Rate of wages

Regularity of employment

Shipping employment.

Messrs Forbes, Abbott & Lennard. Chemical Works.

E. Greenwich

Hours of work for labourers ~~[illegible]~~ — in summer ~~[illegible]~~ ~~for men~~ ~~[illegible]~~ 10 hrs. work per diem. in the winter the hrs worked are reduced owing to darkness.

Wages earned by time workers 5½ to 6 an hour. Nearly all hands at factory work by time. Sometimes they are given piece work principally for loading & unloading vessels when they are able to earn fr. 7/- to 10/- per diem when they do overtime.

There is perfect regularity of employment all the year round for the regular hand but sometimes in winter when there is greater pressure of business in the pitch trade, which is one of the principal products of this firm extra hands fr. the East Brierfields, who are largely out of work in the winter, are taken on for 3 or 4 months perhaps or less. These men return to their

work

Productions.

Two branches of workmen

Methods of training.

work on the brick fields in the summer.

The pitch is difficult to export in summer on account of the heat - but a great deal is exported in winter both to continent & to America for use as patent fuel.

The pitch is the residuum of ~~distill~~ coal tar which has gone thro' a process of distilling - The other products of the tar are used as bases for aniline, alizarine & naphthaline dyes - disinfectants - spirits of naphtha, benzine etc - used for cleaning.

There are two branches.

1. the distillers or stillmen & refiners. earning 6/- a day.

2. The ordinary labourers in the yard who do the heavy work. earning 5½ - 6 p.d.

There is no regular system of taking in boys or lads to learn the stillman's work - but if an ordinary labourer (class 2). is seen to be sharp & steady he is moved up into class 1. & taught the business. which takes about a couple of years to learn thoroughly.

There

Foreigners.

Unions.

Benefit Societies.

Drink.

There are no foreigners competing with the working men.

There are no unions in the chemical trade as such - altho' the dock strike called out a number of their hands. But since that time there has been no trouble between unionists & non-unionists - no questions are ever asked by the employers as to whether a man belongs to an association, or not - There is a benefit society in the firm.

3d a week contribution.

10/- a week sick benefit for not more than 3 months in the year.

10 p.c. of premiums contributed by firm towards the fund.

A marked improvement of late years - tho' this may be owing to the stricter regulations regarding consumption of beer etc on the premises. Of course the employers don't know what goes on outside. But a man is never seen drunk now

Loss of capacity.

now with the police. Only tea & coffee may be generally handed round. but a man may bring in a pint bottle of beer if he likes it. Mr — believes about ?? ⅓ of laborers are teetotalers. They are also more thrifty than they used to be.

In the upper branch, which is perfectly healthy & the work not physically very hard. a man may well go on earning the best wages until he becomes incapable for old age at say 65 to 70. or even in some cases more. But where hard physical work is required. such as lifting heavy weights. men break down very much earlier. at about 45.

A man cannot be kept on at time work after he has lost power. as he must be paid at the same rate as the other. for they will not allow a man to work for less wages. and it is therefore pure loss to the firm to keep on men after 45. or 50 at anything like heavy work.

The

Habitations. rents.

The men live mostly about in the neighbourhood - some in blocks of model dwellings; others in "double" houses - of 2 rooms.
They pay 4/6 for lodging in former & about 9/- to 9/6 for latter. & take in lodgers to cover half the expense.
The house system is greatly preferred as there is more liberty & the "back yard" where dogs, rabbits or even a pig may be kept is looked upon as a great advantage.

Time or Piece.

Wages:

Hours.

Messrs J. Lawes, Bonnet & Co. Millwall.
Atlas Chemical works. Millwall.
Nearly all hands on time except in special jobs such as loading & discharging vessels.
Wages vary from £4 for foreman to 27/- for ordinary labourer. on the piece work jobs men working hard can earn £5 a week. There are 6 men employed exclusively upon this work & they earn about £3 a week all the year round.
Hands work from 6 a.m. to 8 p.m. all the year round & are paid for day & quarter working up to 8. 1½ hrs a day – 2½ for meals.
There is absolute regularity of work as far as hands are concerned & something is always found for them to do, whether in repairing brick boiling or building even if there should come a slack season.
But some articles are produced more

at

Production

77

Process.

Methods of training.

at one season of the year than at another.
The main products of the business are Tartaric acid, citric acid, & cream of tartar.
Tartaric acid & cream of tartar produced from wine lees - imported from Italy & France.
Citric acid from lemon juice imported from Italy.
Wine lees are dried in the oven, put in sacks & imported to England. Here they are crushed - bitartarate of potash extracted - refined for production of tartaric acid - & the residue ~~to~~ containing 4 to 5 p.c nitrogen = 3 p.c. ammonia - sold as a basis for artificial manure.
Men come in as ordinary labourers. & as at Messrs Forbes & Abbott, if intelligent & steady are allowed to move up into the upper class of stillmen. The refining business ought not to take more than a year to learn properly. There

Drink

Unions

Foreign workmen

Foreign competition

is no regular system.

There are strict regulations against smoking or drinking on the premises of the Factory. There are a good many teetotalers among the men. The head foreman is one. A teetotaler is now no longer looked down upon, but rather respected.

Men allowed pay for bank holidays. & given one summer outing a year by the Firm. There is never the slightest trouble in respect of drunkenness on this occasion.

There is no trouble between unionists & non unionists.

No foreigners compete for work in this business.

There is considerable foreign competition which has greatly reduced prices. The principal foreign countries competing are Germany & America both of which have their own wire lees & have not to pay cost of importation.

The

State of trade.

Loss of capacity

Habitations & Rents

The last years of the 18th were the most flourishing for the trade. in 188 the price of tartaric acid was 15d per lb. now it has fallen to 11½d. It is however more largely used & a great deal more turned out than formerly.

191. was bad. 192 worse. the present year rather better.

There has been about 50 p.c. increase of plant in the last seven years & also of hands employed.

Men doing hard physical work like ordinary yard labourers rarely last beyond 40 to 45 at their best. a man is at his best from. 23 to about 40 – 45. For the rest this work is perfectly healthy & there is nothing to prevent their working up to 65 & 70 if they have a sound constitution.

Men mostly live in neighbourhood. in "Double" houses with rents at from 8/- to 10/- a week.

11 July.

Products.

All crude products for aniline & alizarine are made. The first processes of distillation from tar are not unhealthy but the further processes for making alizarine are not wholesome.

Regularity.

Messrs Burt, Boulton & Haywood.

Saw Mr H. Boulton at Office at 64 Cannon St.

The firm like Forbes, Abbott, & Lennard ~~produces~~ manufacture all coal tar products in the crude state. i.e. Benzol: Toluol: anthracene: naphtha - & pitch the residuum.

There is perfect regularity as far as the actual chemical work is concerned - The irregularity only occurs in regard to those men who are working at the loading of ships with solid pitch to be made into fuel. principally in S. Wales & by one or two factories in the N. of England. There is far more work for these men in the winter, when a larger amount of coal tar is produced by the gas cos for distillation. & extra hands have therefore to be taken on. but their job is to some extent with the timber trade which is also carried on by Messrs B. B & H. - & which being mostly imported from the Baltic is closed for a certain number of months in the winter

Systems of Training.

Trade at 1891.

Foreign work.

so that men who are thrown out of work in the timber yard in winter are often taken into the potash loading business. & vice versa.
There is no regular method of training. For the ordinary skilled men youths are taken in by experienced skilled men to help them & so gradually acquire a knowledge of the business - rising sometimes from the bottle washing boys, & sometimes from the ordinary yard labourers to the foremen.
This post requires considerable attention & care, tho' not much technical knowledge. But the highly skilled work is done by men who come into the laboratory after having passed good examinations at technical colleges; & then are either placed over the workmen & foreman as managers, or remain on in the laboratory, according as their character are fitted for the work.
There is not much difference between state of trade in 1891. & at present.
The Germans make the best aniline dyes, but we ~~had~~ keep up with them as regards alizarine dyes.

11. July. visited upon letter of introduction from Mr H. Boulton.

Hours.

Wages.

Regularity.

Foreign competition.

British Alizarine Co. works. Silvertown. manager Mr James.

54 per week (12 – 2 pm diem. & close Saturday at 1.).

Foreman. £2-10. – hands from 6 to 7½ none less than 6d except one or two old men doing easy work to prevent their going into the workhouse.

Perfectly regular from years end to years end – very rarely that occasion arises for overtime – ~~Extra~~ hands not wanted for special seasons of the year. The trade is steadily increasing, but this does not mean an increase in the number of men employed – as the machinery & plant already worked is capable of doing a good deal more with no more more attention than is now given to it. Severe competition with German Firms but on the whole getting better of them as far as trade with England itself is concerned. But this company is the only

large

Unionists.

Methods of training

large alizarine Co that has survived the struggle in London.

No difficulties at present with Unionists & there were none even at the time of the dock strike - The only difference made since then & made voluntarily on the part of the Co is the abolition of the system of "gangers" - i.e. contracting - something after the system in vogue in the Dispatch trade - which led largely to sweating & the establishment instead of paid foremen.

There are no regular methods for ordinary hands. They are picked up out of the yard, according as they appear - exceptionally steady or intelligent.

The work is all under the immediate supervision and direction of the chemists in the laboratory - until a new process has been thoroughly mastered by one of the foremen & can be carried out by him & his men practically by rule of thumb.

The foreman is generally a workman of over

his

Drink

The works.

the average intelligence who has picked up enough chemical knowledge in the course of his training in the workshops to be able to apply the tests requisite for the particular processes over which he presides.

Temperance undoubtedly is progressing a very fair number of teetotallers & Salvationists among the employees. all of whom are respectable men.

The process through which the anthracene passes in order to be turned into alizarine consists ~~[illegible]~~ of passing the original oil thro' something like seven different stills subjecting it in each case to a different chemical combination. The entire cycle taking from 6 weeks to 2 months to complete.

On the whole the works were not so disagreeable as I expected. The in some of the shops there air was filled with the fine dust of the anthracene, which has to be ground down for solution. The men have a faces are covered with

the

Mem. Find out more as to unhealthiness of this process.

this dust - but there were none that I saw wearing masks. Some of the vapour & gases given off by the distilled acids in which the alizarine bases are dissolved were also highly pungent & actively disagreeable. but I was told that it was a rare occurrence that these should be noticeable in the shop. they were usually carried off in tubes to the outer air - the tops of the stills being hermetically sealed down. (?). There were few old men at work.

visited. 13 July 1893.

Wages.

Hours.

Regularity.

Methods of training.

Mr B. Bedow. (J. Propert). Harness. saddle makers. & Blacking manufacturers. Battersea Park Road.

There are two branches of workmen
1. The Packers. who are the highest paid.
2. Manufacturers & yard labourers receiving on an average for the whole year round something like 25/-.
A considerable number of boys up to 17-18 years age employed. whose wages average about 12/-.
56½ per week being 10 working hrs. per day & 6½ on Saturday.
Not much difference in the firm as a whole tho' certain depts. are more busy in summer than in winter. But the same number of hands are generally kept at work, unless there is a ~~general~~ permanent increase in number wanted on account of extension of business.
The business is steadily increasing & this may be said of the whole trade
There is no system of training. the extent of

Loss of capacity

Foreign competition.

Origin of trade.

2

of skill required is very slight –

occurs probably between 60 & 65 in average cases of steady & sober workmen.
There is considerable competition with foreign firms on their own ground. but hitherto their manufactures have not been imported largely into England. as they are not nearly so good as the English & have not caught on over here. There is also a good deal of competition with small makers. who sell at very low prices.

The trade is a perfectly new one. Not on a large scale it has only been going for about 50 years – Formerly every gentleman's servant had his own receipt for making up polishes. plate powders &c. & some of the most enterprising of them started manufacturing for their own account. & extended their business until they became large firms. Nearly all the principal firms had started in this way. & the trade was still increasing.

There

There has been no difficulties hitherto between unionists & non-unionists.
There is no competition to speak of between foreign & English workmen.

Messrs Burroughes & Wellcome.
Chemical works. Dartford.
The products of this firm consist largely in malt preparations, for which they have large vacuum pans. & in making up almost all kinds of medecines by a patent process into tablets so as to make them at once easier to take & pleasanter.
They work upon the profit sharing system on the following basis.
Every year when a balance sheet is struck & the net profit is ascertained a per centage which has been the same for the past seven years, is taken & set aside to be divided amongst all employees. Each employee receives a

share

BURROUGHS, WELLCOME & Co
Importers, Exporters, & Manufacturing Chemists,
SNOW HILL BUILDINGS,
LONDON, E.C.
CABLE ADDRESS "BURCOME, LONDON"
TELEPHONE No 6601.

Vol. 2 Part II Chap II

Begin 93 at fol. 31

8th July 1893.

Sir

Replying to yours of the 5th inst, we shall be pleased to give you any information relating to our business, and the relations between the firm and our employes. Perhaps it might be of interest if we should briefly state the conditions under which we have been working for several years. At the beginning of our business our hours were quite irregular. We used sometimes to work very late at night, and on one or two occasions under pressure of business, worked all night long. We became convinced that this was not desirable for the health of the workers and rapidly augmented our forces, gradually reducing the hours of labor. The longest regular hours of labor that we have had have been from 9 to 10 hours per day. We were working about 9 hours a day until the opening of our laboratories at Dartford, when the 8 hours system was introduced. Mr Henry George opened the Works in the presence of about ten thousand people. His advice was asked on the 8 hours system and he highly recommended its adoption, and an announcement was made that we would adopt this system in future. Our hours of labor at Dartford are from 8 to 12 and from 1 to 5 in the afternoon. On Saturdays we work from 8 to 12 or 1, making 44 or 45 hours per week. The hours in the office are 9 to 1 and 2 to 6 except on Saturdays when they are from 9 to 1 or 2, making 44 or 45 hours per week. We think the health of everyone has been better since we adopted this 8 hours system of labor. We also note with satisfaction that our goods are generally considered the best of their class in the market.

All our employes have taken a great interest in their work and in the general welfare of the business from the first. We were therefore induced to adopt a profit sharing system on the following basis.- Every year when a balance sheet is struck and the net profit is ascertained, a per centage, which has been the same for the past seven years, is taken and set aside to be divided amongst all employes. The idea is that each shall share in the profits in proportion to his part in creating said profits or in proportion to his value to the business. This is as nearly as we can estimate fixed by the salary paid. Therefore each employe receives a share

Mrs Esme Howard

continued

who is anxious to obtain some further information in connection with our Dartford Factory. Kindly supply same.

R. Sudlow

No 2. 8th July 1893.

of the bonus of profits in proportion to the salary which he receives. The bonus is looked upon as a present given by us to the employes as a recognition of the special interest which they take in the general prosperity of the business, and as a special mark of our appreciation of the same, and of our good will.

We are very well satisfied both with the 8 hours and the profit sharing systems, which together have conduced to make our business as much a matter of pleasure and interest as of labor, to everyone concerned. We shall be pleased to have Mr Booth or yourself or a party of your friends visit our office or works at Dartford with perfect freedom to speak with any or all of our employes in order that you may gain as full information as possible about the systems which we would be glad to see adopted generally.

The vacations allowed in our business without deductions from salary vary from one week to three weeks.

Yours truly,
S.M. Burroughs.
per

Esme Howard, Esq
2 Talbot Road,
Gracechurch Street,
E.C.

This will serve to introduce Mr Esme Howard, who is anxious to obtain some further information in connection with our Dartford Factory. Kindly supply same.

R.H. Sudlow

Unions.

Competition with foreign workmen.

Products.

There has been no difficulties hitherto between unionists & non-unionists.

There is no competition to speak of between foreign & English workmen.

Messrs Burroughes & Wellcome.

Chemical works. Dartford.

The products of this firm consist largely in malt preparations, for which they have large vacuum pans. & in making up almost all kinds of medicines by a patent process into tablets so as to make them at once easier to take & pleasanter.

They work upon the profit sharing system on the following basis.

Every year when a balance sheet is struck & the net profit is ascertained a per centage which has been the same for the past seven years, is taken & set aside to be divided amongst all employés. Each employée receives a

share

Hours.

share of these profits in proportion to his salary he receives.

Besides this, Messrs B & W. have adopted the 8 hrs. system. The working hrs are from 8 to 12. & from 1 to 5. on Saturdays work lasts from 8 to 12 or 1. p.m. making 44 or 45 hours per week. The office hours are 9 to 1 & 2 to 6 except Saturdays when they are 9 to 1 or 2. making also 44 or 45 hrs per week. The firm believe that the general health has been much better since the adoption of the system, & they "note with pleasure" that their goods are generally considered the best of their class in the market.

At the beginning of their business their hours were very irregular. They used sometimes to work very late at night & under pressure of business worked all night long. but they became convinced that this was not desirable for the health of the workers & rapidly augmented their forces gradually reducing the hours of

Labour

Busy & slack season

interview with manager at Dartford –
13 July 1893.

Time or Piece

The manager was greatly in favour of time &

Different Branches.

Wages.

labour, until four years ago when on the works at Dartford being opened by Mr Henry George, they were finally reduced to 8 – The busiest seasons ~~is~~ the winter or midwinter months – fr: Oct: to March. That overtime is worked, is generally done in the girls department – that of "Putting up" & would never exceed 53 hrs a week. The girls are never taken under 17 years of age. There are very few married women employed – & the employment of such is discouraged.

All time work.

turning at more finished work

There are four. 1. Manufacturing – 2. Putting up. 3. Testing. 4. Engineering. & lastly the entirely unskilled work in the yard. & bottle washing etc. done by boys.

Engineers average fr: £1 0/- to £1 5/- ~~[illegible]~~ including holidays & the least skilled labour in this class.

Head foreman gets. 6 5/ 0 0 –

Manufacturers

Training

Unions.

Drink.

manufacturers. 26/- under same conditions.
Putting up Dept.ᵗ (fitts). 14/- or 15/-.
This holds good of the whole year round
no systematic method. men are taken
into a department and are partly taught
by the foreman & partly pick it up
as they go along. there are no apprentices.
Applications come from all parts of the
country for places under the firm.
relatives of those already working there
have the preference as a rule & there
are whole families at work in the factory.
There has never been the slightest
trouble with the Unions. & no complaints
have ever been made in regard to the
system of profit sharing.
The firm have no complaints to make
in regard to drunkenness.
There is no day allowed after bank-holidays
for "recovery", neither is such a thing
wanted by the men. A good many
firms which are last have to shut
up for a whole week after a bank
holiday

Competition with Foreign Workmen.

Rents.

holiday because so few men come in that it is useless to keep the place open. but this is generally largely the fault of management

Germans & Swiss are undoubtedly better technically trained than Englishmen. They acquire a more general knowledge of their business either owing to better technical education in their own countries or because of greater application & determination to learn even at cost of present loss.

There is therefore considerable competition with foreigners for the higher class skilled employments – One German who was an engineer at work in the Dennis – could both make a watch & put together a large steam engine.

There is also a good deal of competition in the trade between England & Germany especially in "fine chemicals."

Comparison between Dartford & Wandsworth.

at D – a house 2 stories & about 6 rooms. price 6/–

at W. – – – – – – – – 8/ or 9/–

Hours of labour.

Regularity

About 50 to 60 per cent are in regular employment & the rest get a good six months work. from March to October.

Mr Henry Hemingway of Hemingway & Co. – Market Lane, Stratford – manufacturers of coarse oil colours for outside painting.
Superior men work 6 to 6. – 1½ for food.
Ordinary hands from 7 to 6 – – – on Saturdays till 12.30 or 1.
being altogether about 54.
The busy season is in the summer, & it is rather the custom of the firm to take on extra hands who are afterwards discharged than to work much overtime.
The greater part of the work may be classed as entirely or almost unskilled. only that amount of attention & care being required that is necessary for work of any kind.
The extra hands who work at the firm in the summer go to a great extent to the gasworks in the winter & about 70 or 80 p.c. return again to

Healthiness.

to the chemicals works in the summer. The main products are base for coarse colours, & in the case of finer colours for picture painting these are further ground down & refined by such firms as Windsor & Newton.

The general run of the work is not unhealthy. But there is one product which has to be very carefully worked or the process is likely to prove deleterious to the health of the men employed – This is an arsenical powder for the destruction of the American potato-bug & other insects destructive to Agriculture – Great cleanliness is required on the part of those engaged in this process, & for this purpose there are specially provided with washing apparatus. Men with red hair or very fair people are especially liable to get a skin irritation in this process, but if the right sort of man is set to work upon it & the proper care is taken, there is

Foreign competition

Drink.

Wages.

is no reason why it shd prove deleterious. There is no foreign competition as regards this particular arsenical product, but in respect to the main business of the firm, i.e. colour making the foreign competition especially with Germans is terribly keen.

There is a great improvement in regard to drink in the last few years, as far as regular hands are concerned - tho as yet this has not penetrated the stratum of the irregular labourers - coal-porters - wharfingers etc. These latter are much the same as they were 40 or 50 years ago & are extraordinarily conservative in their habits. They are proud of the strength & skill required for carrying & loading heavy weights on their backs. Prefer to stick to old methods & have the greatest dislike of any labour-saving machinery. and are also greatly given to drink.

Wages are all paid by the ~~day~~ hour. beginning at 4 3/4 an hour when entering the works & rising to 6 1/2 or 6' according to skill & proficiency acquired.

Mr David Howard - Rectory Manor. Walthamstow Essex. - Manufacturing Chemist. (Quinine).

Copy -- 14 July. 93.

"It is most difficult to give average rates of wages in business similar to that of my firm at Stratford, for no two factories engaged in the minor branches of the Chemical Industries are carried on under exactly the same circs. & even in the same factory the conditns & remuntn of labour vary greatly in different departments. With the exception a certain number of artizans who receive at least the regular wages of their trade, those employed would rank as "unskilled", that is to say they have no special training and are only required to bring to their work intelligent obedience, their remuntn is then that of the unskilled labour of the district where the factory in qestn may be, higher or lower as the work requires more or less care & is more or less severe.

Even

25

Even if a man has shewn himself specially competent & is in receipt of increased wages in a factory his knowledge would not be of value elsewhere.

In our factory as a rule the work is not severe, though requiring care & attention & in many departments we employ boys & young men, who of course would depress our average rate very greatly. Our hours are shorter than most of the factories round - 9½ five days in the week & till 1 on Saturday - 54 hrs. in all. A great many processes however are continuous, where watching without hard work is required & for keeping the steam up in the boilers night men are employed, taking alternate weeks with others for night & daywork, and besides that a good deal of overtime has to be divided up amongst the men.

The health of the men is above the average & even when handling poisons, if only they will carry out the rules

made

made for their protection. their health does not suffer - a good many men of our hands keep on working till 70 & in some cases even beyond eighty. We have a sick club to which we subscribe but which is entirely ~~many~~ managed by the men. and a good many are members of other clubs & societies.

In our trade & in all the allied chemical trades the foreign competition is extremely severe. German workmen in chemical factories work much longer hours for lower wages, [& owing I believe to their military service are much more amenable to discipline, as] labour is a chief factor in the cost of many chemicals specially those of low value. This makes the position of the English manufacturer very difficult, any material increase in wages would compel the relinquishing of all the less profitable operations - even now we frequently are offered chemicals at prices which it is

impossible

4½d

impossible to make them at with English labour."

The excessive cost of handling goods in the Port of London is another great difficulty - specially in the case of heavy raw materials."

Believe me

David Howard.

Hours.

Percentage of women.

Irregularity among operatives.

Messrs Bryant & May - Bow.
Managing Director. Mr Gilbert Bartholomew.

Hours = 56½ a week. - 11½ - 1½.
$\frac{10}{13}$ of operatives are women. & about 10 per cent of these are married.
The married women are allowed exceptional privilege such as the Friday off. for house cleaning.
There is a great deal of irregularity among employees in coming to work. One factory depends upon another. as the work is passed thro' its various sections & therefore when the operatives of one shop are off for an afternoon, the whole factory is practically disorganized. & the next after stay away for half the next day in order to punish the original offenders. The firm loses a good deal by these irregularities - which are indulged in largely both by men & women.
<u>The work is all</u> paid by the piece.
On the whole, however, the irregularity of

attendance

Slack season

40

attendance in growing less. & in last 3 months. in spite of the fine weather have been better in this respect than anything I have ever known before. Formerly a considerable number of girls used to go away for a fortnight in the summer hop-picking but this practice is dying out & it is doubtful whether any will go this year – It is more satisfactory that they should not do so, as they come back demoralized & discontented.

The slackest season in the year is generally May, June, July. & during this period a certain amount of short time is usually worked – At present however regular hours are being worked in every branch. ~~except~~ except in the wax match. dept. which is closed on Mondays altogether. This is owing to the great depression in Australia. which up to last year was a tremendous consumer. in fact the market there has been over-stocked. & great numbers of suppliers are being

being sold at present a discount by bankrupt firms. & until the present overstock has been used up all shipments will cease.

It has not been found necessary, however, to discharge any hands. The English market is just as good as ever. & Mr B. believes that within a few months the Australian market will recover. as far as matches are concerned. at present however, the warehouses are stocked full up & it is difficult to keep the works going.

17 July.

Hours.

Wages.

Perquisites.

Brooks, Simpson & Spiller. Aniline Dye Manufacturers. Limited Co. Hackney Wick. N.E.
Manager. Mr Friswell.
6 a.m. to 5.30 p.m. allowing 1½ for meals. – Up to 1 on Saturday making altogether 56.
When overtime is being worked ½ hr. is given from 5.30 to 6 allowed for tea.
Foreman 30/- for regular time & 6d an hr. for overtime.
an average labourer (with overtime) £1-4s
ordinary hrs. £1-1-18
& a raw hand.
Overtime paid for: 4d an hour to 6d according to merit of workman.
Medical attendance is given free by the firm.
The firm further provides free. clogs - india-rubber gloves (for dangerous processes e.g. drawing of distilled nitric acid.) & in some cases rough leather gloves. like those used by hedgers & ditchers.
All bank holidays & one extra holiday in the summer

Regularity.

character of work:

summer paid for by the firm.
There is a slack period ranging over July, September, & August.
But during the busy time no extra hands are taken on - but a certain amount of overtime is worked.
2 shifts are often required in the longer processes. 1 night & 1 day. The work is generally speaking not very hard. There are long spells of waiting while the chemicals are under operation during which nothing need be done. The only heavy work is lifting the carboys - large bottles filled with acid, & set in wicker - & emptying the acids into the stills - they weigh from 120 to 150 lbs according to the acid they contain: & two men are required to lift them.
What is required for this work is rather intelligent obedience than any sort of skill. Chemical labourers may be compared with soldiers in a regiment. They have to learn a certain drill, & act upon the word of command as it were by rule of thumb without

Drink.

107

without really knowing or understanding the precise effect & result of their own action. That is all previously calculated & worked out by the chemists in the laboratory who take the place of the officers; commanding & seeing their orders put properly into execution. The chemical labourer is thus neither quite a skilled nor an unskilled labourer. He has it is true to learn a "drill" & to carry it out regularly & methodically, but he is not like an engineer who understands the working of his engine from top to toe. For this reason, old soldiers make the best chemical labourers, because they are as a rule obedient to orders, & don't think too much for themselves. They are generally preferred over other applicants. The greater majority of men are Londoners. Mr. Trusnell believes that there is rather a reaction going on agst temperance. & that the latter movement has reached its highest point for the present.

At any rate losing time on Monday mornings

Method of training.

Foreign competition.

mornings & after Bank holidays is rather more prevalent than it was sometime ago.—

All hands have pretty regular work. There is no regular system. It is here as in the other factories I have visited. The Foreign competition is so severe, especially German — that it is almost impossible to make the business a paying concern. About ten years ago, it was on the verge of ruin. The original owners had refused to run the business on scientific lines. They thought they were safe & continued working on the old principle without ~~trust~~ availing themselves of the improvements & modifications of the processes discovered by German & other chemists. The Germans, on the other hand, were fully in touch with the latest methods. Their chemical professors at the Universities work hand in glove with manufacturing chemists & do not despise questions of "manufacturing chemistry" as do the professors over here.

They

Healthiness.

?.

They are always ready to use the University & Govt. laboratories for experiments of a practical nature. The results of this is the Germans advanced so far ahead of Englishmen as regards aniline dyes that it is no easy matter to recover the ground that is lost. The cheapness of German labour has also something to do with their successful competition, but less than is generally supposed.

There is nothing particularly deleterious to health, except perhaps the distillation of nitric acid, & in this the only dangerous process is drawing off the distilled liquid - when india-rubber gloves are supplied as it is highly corrosive - but ordinary times there is nothing disagreeable in the nitric acid distillery - there are no fumes noticeable, & nothing injurious to health in the atmosphere. From time to time men ~~most~~ do breathe up some fumes, as in drawing-off - this is unavoidable. But this only occurs about in 24 hours (?).

All the processes of grinding substance into fine dust are disagreeable unless they happen to be wet processes; & wherever these processes are going on it is impossible to avoid breathing up some particles, where the air is thick with them. The worst place for this, however, that I have yet seen was the Alizarine Co, & there was not much to complain of in these works.

There are a large number of white, haired elderly men working for this firm. Which seems gives the impression that the work is not unhealthy. - It certainly, on a whole, does not look very hard.

19 July.

Messrs Hemingways B. Marshgate Lane.
Stratford. E.

Manufacturers of colours - principally red.
from oxide of iron - & of insecticide powder.
containing 25 p.c. arsenic & known as
London Purple - exported to America to
kill Potato Bug -

Works rather slack at present - & much
affected by general depression.

Here as in other chemical works, no
process is disagreeable as longest remains
a wet process. But when products are
dried & ground, the air is filled with
particles, which in the case of "London
Blue" are injurious, unless care is taken.
Men must wash frequently - before
eating etc. They wear pocket handkerchief
over their noses & mouths, which are
or ought be washed once a day. Pains are
taken ~~to avoid~~ prevent the air becoming
charged with particles, but still a certain
amount escape & are liable to be inhaled.
The dust unless washed off as soon as possible
"

is apt to cause irritation of the skin & soreness.
But on the whole it is fairly well known
how to avoid these diseases &
there have not been cases of illness for
some time owing to these causes.
Messrs Hemingway used to have a bonus
system. i.e. a penny on every cask of
blue to those men that had had a hand
in working it. I could not exactly understand
their method, but it seem to have been rather
arbitrarily decided as to who the receiver bonus
& how much. It led to trouble among the
men & had to be given up.
I spoke to two of the men.
1. Harris - cooper - earnings on an
average. 32/- all the year round.
There were times when heavy overtime was
worked - He had even done 90 - or 95 hrs
a week.
He has gone in for keeping a small coffee house,
a fish shop. & a variety of different jobs.
& had finally returned to his original work
coopering. & ~~Sa~~ professed himself satisfied
with

with his present firm. at which he has been for 11 years.

He has a house at Bromley - 7. shillings. 4 rooms & a kitchen & a good yard. He has never felt any injurious effects from handling the "Purple" which it was his business to paint, & has never been seriously ill in his life.

2. Scott - Foreman. in colour works.

No danger to health if a man kept himself perfectly clean. Bath once a week necessary. & always wash hands before food etc.

also more constant change of sock. & underlinen than was usual with workingmen. He used 2 pr. clean socks. a week. 1 change of underlinen. Also he wore overalls, & gloves to prevent his clothes being contaminated. Which few other men wd take the trouble to do.

He lived in the Isle of Dogs. & held a good 6 roomed house & garden, together with his brother for 11/-. Which he did not consider high. it was a "select" neighbourhood.

21 July.

Anglo-Continental Peruvian Guano Co. Victoria Docks.
Mr W. Crowder. manager.

The work is not unhealthy - tho' it differs from most of the chemical manufactures in that 90% of it is hard physical work. carrying heavy weights - sacks of stuff - shovelling & barrowing.

The Factory is very large & covers something like 2 acres of ground. but altho' there is plenty of ventilation & large doors are left open on all sides. the interior is filled with dust of the ground phosphate of lime which is unpleasant but not necessarily unhealthy.

The phosphate of lime, which is mostly imported from America & Canada, is ground very fine, dissolved in sulphuric acid - sets like plaster of paris, is then dried, & passed through a sieve. The process is a very simple one. This firm has also 3 factories on the Continent 2 in Germany, one in Holland.

Mr Crowder has a poor opinion of the foreign workmen. They cannot do the

amount

amount of work yields an Englishman is capable, & he believes that for this sort of work an Englishman earning higher wages pays the master better than a foreigner earning about 25% less.

The men work in gangs. The gang of about 20 men undertaking to put out a certain amount of work for which they are paid, but not as a gang. each man receiving his share separately from the paymaster. But the result of this system is that the men will not allow any weak or lazy man to work on their gang.

Not many men can continue at this sort of work after 45 or at least 50. The gangs object to their continuing after this age. or rather after their powers begin to decline.

25 July 1893.

Professor Watson Smith – of London University.
The principal chemical manufactories in London are match works.
Speaking of Bryant & Mays – he said that after having been over the works, he believed that everything that could be done to prevent the terrible disease necrosis, which comes fr: the use of white phosphorus for matches – was done there – All matches that will strike upon any rough surface – i.e not safety matches ~~&~~ are made with the white phosphorus – The safety matches striking on a prepared surface are made with red phosphorus which is not dangerous.
The girls who absorb the phosphorus in their system are the "boxers" who have to take ~~up~~ in their hands a press into boxes, the matches as they come out from having their heads dipped into the phosphorus. From continual contact with their hands the phosphorus is finally absorbed into the system & attacks the teeth causing a sort of peculiar decay of the jaw, fr:

which

which the disease* is termed phossy jaw. It readily attacks any one with a syphilitic taint.

There is no remedy for this – unless the boxing could be done by machinery – except the abolition of the use of non-safety matches made with white phosphorus.

As regards white lead & processes where arsenic came into play; Prof: Smith believed that want of cleanliness had a good deal to do with the unhealthiness of the work. But all dry processes of deleterious substances where dust was flying about & inhaled into the system must of necessity be more or less injurious especially if workmen would not wear respirators & use other preventatives supplied by employers.

The articles in the Daily Chronicle on these subjects had been written in a spirit of violent exaggeration – especially as regards the Alkali works.

Some of the acid distilling processes. nitric & sulphuric acid were attended by

by danger certainly. but on the whole the was fairly well guarded against, & if misfortunes did occur, they were more often traceable to carelessness among workmen. than to any fault of the masters. Bi-chromate of potash in use in alizarine dye work is a dangerous substance. & also bisulphide of carbon used in the process of vulcanising india-rubber.

Wages.

Hrs.

Regularity.

Mr. Johnson. Crown Chemical Works. Marshgate Lane. Stratford.

Foremen or "gaffers" or "leading hands" get av: 30/- per week.

ordinary labourers. 24/- per week.

Hours. 6 to 6 - ÷ 1 (8-9) for breakfast & 1 (1 to 2) for dinner.

Saturdays ½ holiday closing at 2 (?). paid as full day.

All bank holidays paid, provided men turn up on following day. They generally turn up in morning & then give up before midday, but are at least regular in attendance for the next day.

Gratuities of 5/- given at Xmas & Whitsun.

There is very little change in regularity of work. The slack time is naturally the winter, as the sulphur which is the main product of this firm is largely used for agriculture during the summer. But a considerable amount of extra stuff is made during winter to stock for the summer demand.

Unhealthiness

The employment being regular all the year round men do not shift into other branches of business a back at particular seasons. But they are frequently shifted fr. one section of work in Dyeing to another, to suit the convenience of the moment. The work is not very skilled work. The whole is supervised by a managing chemist – but the knowledge of chemistry required for business of this sort is not very great. The only employment under the Dyeing which may be called unhealthy or disagreeable is that of the salt-cake furnaces. The men who work at this get 7/6 per day. I had some conversation with one of these men. He had worked some 16 years at this sort of job. & had not found it unhealthy. The furnace was in an open shed – smithy roofed over. but nevertheless when ever the door was opened either to rake out the stuff. or for some other reasons – very pungent fumes came out & for a few moments at least the

man

Two workmen.

man was compelled to inhale them. to some degree. He wore nothing to protect him from them. He looked well.

Two other men with whom I spoke were

1. carman. earning 24/- plus an extra pr looking after horses. He was not a country-man, but a good many carmen were. They did not generally get more than 21/- or less 19/- to 20/- on prior coming up to town. He lived in neighbourhood paying 4/6 pr upper floor of double house - containing 4 rooms a kitchen & use of half the yard.

2. cooper - half-drunk - earned 34/- worked about 8 hrs - business preparing old casks for reception of acids.

Lives 2½ miles away on Wansted Flats - near "The Forest" (?) - House 4 rooms kitchen wash house & yard. £4/6 - a house with only 2 rooms & kitchen near the works. cost the same money.

New premises were being built for sulphuric acid stills - more convenient & higher than the

Comparison with 91

Methods of training

Loss of capacity.

Countrymen & Foreigners.

the old ones.
No particular change since that time, if anything slightly increased. A considerable export trade with Australia & the Cape
There is considerable competition with Germany.
No regular method. Boys or youths taken on & set to work at different branches as occasion requires - frequently shifted from one branch to another.
There is no skill required ~~as~~ in men who are at first taken on & the extent of skill acquired is apparently very slight.
Here Mr G.'s answer seemed at variance with the facts. ~~[illegible]~~ His answer was 55 to 60 for hard labouring work & 60 to 70 for easier work. He however told me to question the foreman of the yard who was also the oldest hand - having been with them 11 years - He said he was 45!
He was already nearly grizzled. so that he looked over 50.
No Foreigners employed, tho' applications for work

Amount of work done in year

Unions.

Drink

made - For new hands men fresh fr: the plough are preferred & also soldiers, tho these latter are often cunning - they are however more amenable to discipline.
Firm turns out about 10,000 tons of stuff.
Principally fulphur. (flowers) per an:
The turnover is about 35,000.
Daily expenses about £80 -
There are no union men among the employees.
No great improvement noticed except under pressure of more stringent regulations on the part of the Firm. As against introduction of liquor on the premises, and deducting ~~keeping off~~ pay for bank holidays unless men turn up next day - nevertheless there is always a good deal less work done on Mondays & after a general holiday than at any other time. There is unfortunately a public house near the Factory by which men are tempted to drink on leaving work & especially on Saturday evenings.

Mr Charles Umney of Wright, Layman, Umney & Co.
50 Southwark Street. S.E.
Manufacturing Druggists.
Employ 68 hands. wages pr: 27/- to 32/-
employment is perfectly regular - the busiest months being Jany. Febry. & March. when there is most illness about.
Everything turned out by a manufacturing druggist has to supervised with the greatest care, as tho' the retail chemist is most generally blamed for mistakes in prescriptions the original sin may lie at the door of the manufacturer. For this reason over every department is placed an expert in chemistry, a man who has passed examinations incl. the Pharmaceutical Society, & who is absolutely responsible for the smallest product of his shop. During the 18 years of Mr Umney's experience two mistakes only had occurred. It is to the interest of the manufacturer to take all the pains possible to avoid such accidents, as he may at any time be called upon to pay heavy

heavy damages should an accident occur.
The raw drugs are exposed for sale once a week at some place near the docks. London used formerly to be the drug market of the world. but of late years other cities have attracted a part of this business - especially Antwerp, Amsterdam & New York. It is practically necessary to examine every bale before buying, & not be content with samples, as the greatest deceptions are sometimes practised. The chemicals are obtained from various parts of the country from chemical manufacturers - and are made up into drugs on the premises.
Mr. Hinney was very boutonné. I was not taken over his Factory.
There are 7 or 8 manufacturing druggists in London & the number of actual "workpeople" employed would not amount to more than a few hundred.

29 July.

Wages.

How paid.

Regularity.

Hours.

Busy & Slack Seasons

Mr Varney – Waterlow model dwellings. Bethnal Green.
worming at Allen & Hanburys'. Manufacturing Druggists
Boys begin at 6/- & rise 6d per half year.
Men average 28/-
Those who do rather unhealthy work on the dry processes in the laboratory make £2 a week.

Workmen are paid by the week + a certain sum per hour over time when overtime is worked. which is not very often the case. Thus ordinary hands earning 20/- to 25/- would get 6d an hour over-time. the skilled packers earning 25/- to 30/- get 8d an hour overtime.
Some of the girls work by the piece, but the majority of hands are paid by time.
There is perfect regularity of employment, no one ever being turned of during the less busy season.
Hours are from 8 a.m. to 6 p.m. ÷ 1 for dinner. stopping at 2 p.m. on Saturdays.
i.e. 57. hrs a week not counting meal times or 56 hrs including the dinner hour.
The Busy & slack seasons – are the first from September

September to March when there are more people ill & greater demand for drugs.

Miss Christy - also working Allen & Hanbury's & living in Waterlow model dwellings, with her mother & sister - unusually intelligent & pleasant people. rooms comfortable & clean - mother & daughter quietly and carefully dressed. daughter teaches Sunday-school.
Miss C. confirmed Varney's statement rê hrs of work & regularity.
Average wages of girls 8/- tho' some could earn up to 10/- The forewomen of her workshop gets 12/6 - They do not get any higher wages after 18 years of age - Very few married women employed - only in some cases those who have been employed before, & have married husbands who are either unable to work for sickness or are given up to drinking & are thus disabled for keeping the family.
Her own work consists in filling pastilles by pricking them, filling them with the drug & washing them. The work is not difficult to learn in fact one may become an adept at it after a day or two.

31 July.

None of the men are discharged so that of the total number of employees about $\frac{4}{5}$ have regular work – The rest get about 9 months work.

Mr F. G. Hanburys – of Allen & Hanburys. Bethnal Gn
unwilling to give much information.
The Firm seem to have a habit of paying quarterly bonuses to individuals – which they call extra wages – These bonuses are ~~are~~ paid secretly – no workman who receives them letting his neighbour know how much he has got – (I fail to see the object of all this secrecy)
men start with £1 per week & if they become very highly skilled in the chemical ~~works~~ hos. may earn up to £3 –
There is no unhealthy department – When questioned as to the dry processes, Mr H. said men were only kept at it for a few years & rarely suffered –
A certain number of girls – say 25% per cent are discharged during the 5 summer months, during which time the factory is pretty slack – These ~~two~~ are the youngest & the last to be taken on, and know that they are taken on on that understanding – They have the preference next winter for being taken on; but notes are made of their working capability & in this way

this

August 2. –

the idle & troublesome are weeded out. & there is a very high-class of both male & female labour. Drunkenness is practically unknown, & all hands turn up punctually after Sunday or bank holidays. This has been so for years. There is no apprenticeship system. Boys begin as errand-boys & are gradually drafted either into the Laboratory or the Packing Dept. the greater plums are to be got in the former. on the other hand fair average wages are more easily earned in the latter – meaning by their 30/–.

The girls begin at 4/6 & rise to 12/– or more – some of those on piece work can get 16/– or 17/– in busy times.

There are about 90 girls in all.

Workmen in the Factory have their wages paid them by the Firm, when sick (?).

Went over the Factory today. Largely in the Jujube & capsule business: the former are made of glycerine, the latter of gelatine. Both drugs & all ~~sorts~~ sorts are manufactured.

The Factory is an excellent one – very clean &

Mr H. said that one of their men had been sacked for kissing one of the factory girls!

& tidily kept - large well ventilated rooms.
There does not appear to be any disagreeable work, tho' of course great care has to be taken in dealing with poisons.
Extract of malt & infants food & cod liver oil are also largely prepared here.
The jujube & cod liver oil business is very slack at present.
The whole staff are an unusually high-class of working people - both women & men.
The girls are neatly & quietly dressed.
The men have as a rule quick & intelligent expressions.
Drunkenness is practically unknown among them, indeed would not be tolerated for a moment.
There is perfect amity between the firm & their employees.

1st August.

Messrs Burgoyne & Co. 16 Coleman St. E.C.
Wholesale Drugs manufacturers.
Saw Mr Arnold - one of the managers.
The different ~~dep~~ branches may be divided as followed -
1st The skilled chemists - having passed exams of Pharmaceutical Society etc. - and generally been in retail trade - who work at the head of each shop. Some of these men have taken degrees at the London University.
2nd The labourers more or less skilled who work under them - & who gradually acquire a certain rude knowledge of chemistry - These very rarely work themselves into the 1st class. altho' various opportunities are offered to any men of pushing on such as lectures, evening classes & the like.
3rd. The regular porters or labourers who start at about £1 a week -
The packers would also be classed under the 3rd heading - a good number of women are employed in light work & "putting up".
There are no Unionists among the workmen,

one of the managing directors informing me that he had got rid of ~~a~~ two Radicals only lately. These people created trouble in the whole shop, & he would not put up with them –

This Firm does a large export trade with India, Siam, Australia, the Cape & South & Central America – & the manager said that there was depression in trade in every part of the world with which they dealt. & he believed there was no single country which was not at the present moment passing thro' more or less of a commercial crisis.

The premises are old. The Firm has been established here nearly 80 years – & are not so commodious & well lighted as Burroughs & Wellcome or Allen & Hanburys.

Foreign competition is very severe especially German. This comes to a great extent from the cheapness with which a good chemical education can be obtained in Germany. ~~Such~~ an education as in England would cost £150 being obtainable for £60 or £50.

The

The result of this was that the German market was overcrowded with young chemists offering their services for little or nothing & many of them were now coming over to England. There are the strictest possible regulations against drunkenness, & the men are consequently sober. It would be impossible to retain a man for a day who was inclined to be unsteady, as he might "play the devil with the whole shop".

On going over the Factory I was shown some products of Coal Tar which I had not yet seen -

1st two or three scents - one of which that of Muguet was very pleasant, the others were rather heady.

2nd vanilline - which is now largely used instead of the vanilla bean for flavouring biscuits, puddings etc.

Salvation Army Match Factory. Hackney Wick.

Business very slack at present & short hours being worked.
Very fair premises. a good stamp of girls at work. All piece work.
Blocks of wood are cut up by machinery managed by 3 men.. are then ~~[illegible]~~ arranged in rows in species of crates. also by machinery worked by two women. who can earn up to 14/- when business is brisk.
Then heated & soaked in paraffin by a man & boy. then both ends are dipped in the prepared safety & phosphorus & finally chopped in two & boxed by a number of girls perhaps 20.
Girls can earn 12/- to 14/- in good time. now 10/- would more nearly represent wage. but Headquarters have promised to fill up wages form.
A certain number of hands have been discharged this summer. as there is already a larger stock on hand than the factory will be able to get rid of for some time.

The

4 August.

Rates of Wages.

Hours.

The proper offull week hours, workedly, are 9 – viz. 8 to 6 ÷ 1 for dinner. but some short time has been worked lately.

Thomas Tyrer & Co. – Sterling Chemical Works Abbey Lane Stratford.

Warehouse deptt. 17/- to 32/6.

Works. 23/- to £2 - 10 - 0.

the average in the works would probably be 28/- or rather less.

From 6 - 30 a.m. to 6 p.m. ÷ 1½ hrs. for meals – Saturday close at 1. & pay the men for the whole of Saturday afternoon. provided that they turn up on Saturday morning (wages paid Friday night) in good time. many however prefer not to come at all on Saturday & so loose Saturdays morning's wages as well, rather than forfeit the afternoon's wages by coming late. Messrs T. have great trouble with their men on the score of lateness. It is impossible to keep them up to time.– This may,

Overtime is paid per hour at ordinary day rate.

Regularity

Foreign competition

I think have something to do with the fact that apparently very heavy overtime is worked. Young Mr Tyrer showed me the overtime sheet for last week. One man had done 69 hrs overtime - two or three about 35 hrs. & several over 20 - There was no time given to examine the sheet closely, and except for a general impression, a these one or two facts. I could carry nothing away with me. No extra hands are taken on at busy times & then discharged.

The business of the firm seems to be fairly regular & I believe they employ about a 100 hands year in year out. & if one part happens to be slack for a while, men are generally turned on to another to help, even if it be only in cleaning out the shop.

Business was better in 191 than at present. it was then about at its average height.

The foreign competition, especially German, is very keen. There being no duty on Spirits in

Dangerous Process

in Germany, they have a considerable pull in all processes like ether making, where spirits are used. Ether is one of the large products of this firm. There is a certain danger in it, as a man may be overcome by the fumes. but as yet they had had no accident. Free trade is a terrible handicap, young Mr T. was very eloquent on the disadvantage to the manufacturer of chemicals. A certain number of dangerous processes are carried on at these premises. such as preparing oxide of mercury for painting the keels of ships. corrosive sublimate a deadly poison. sulphuric & prussic acids. arseniate of iron. etc. The men working at some of these - especially the oxide of mercury wear handkerchiefs over their mouths. Mr T. told me - what I had heard before from one of Messrs Hennigways men. that cleanliness is the best means of avoiding injury. & he complained that the men would not keep clean. They would leave sometimes on a Friday night with their hair

hair covered with some deleterious dust, a return on the monday in the same condition. Certainly the men did not present a very cleanly appearance. (but if this is so, viz that all injury can be practically avoided especially in dry dust processes - by habitual cleanliness, should not the manufacturer take care to provide, a <u>insist of the use</u> of proper lavatories etc for his men, so that they could rid themselves of the powders before leaving the Factory?)

These men in the chemical works down at Stratford are as a rule a rather low class of semiskilled laborer. I was told that there is nothing they dislike so much as going home, where there is no comfort & no satisfaction to them. The majority of the wives of the district have been Factory girls & have no notion of keeping house - the men therefore prefer to work overtime in the Factory - & when they are turned out, there is nowhere for them to go but the public.

Methods of Training

Foreign Competition between workmen

Unions.

Benefit Club.

There are no regular methods. – Boys are taken & trained up gradually. I don't think I saw more than half a doz: boys on the premises – The extent of actual skill required for a chemical workman is not very great, but observation, nerve, common sense & application are wanted to make a good man – The business is taught to outsiders simply by the example of older hands.

There is none at present, but Mr T entertains serious thoughts of stocking the place with Germans, as they are more accustomed to discipline & more regular.

There are no union men working for the Firm. they would not be admitted.

1 All workers must belong.

2. every member over 18 pays 4d. – those between 14 & 18. 2d & females 2d.

3. Payments to be made weekly. members neglecting to pay shall be fined ½ first time 1½ second & 2d third. (as a matter of fact these payments are deducted from the wages on Friday night. when wages are paid).

4. Every member when sick, shall receive upon medical certificate, 10/- per week for eight weeks & 5/- for another 8 weeks - after 16 weeks he may receive no further allowance during the year.

On the death of any member there is a general levy of £/6 on ~~male~~ adults, & 1/3 on females & boys, which is handed over to representative of dead member.

Books are made up one week prior ~~to~~ the Beanfeast, if any. If there is none then upon the 1st July - the balance being divided up pro rata among existing members. Except the sum of 1/- per adult member & 6d per junior or female member to be carried forward for next year. All fines & donations - Christmas boxes etc. to be paid into Club funds.

Any member leaving the Firm shall receive his equal share then in the Funds.

Loans fr. Club money not exceeding 10/- & charged with 6d per 10/- are allowed to be repaid in instalments of 1/- per week.

Every new employee must join the Club at once

but

Drunk.

but shall not be entitled to receive sick pay until five weeks have elapsed except in cases of ~~sick pay~~ accident.

Mr Tyrer told me that the amount subscribed by the men was supplemented to the amount of $\frac{1}{3}$ by the firm. tho this does not appear upon the rules.

The Firm further guarantee to pay $\frac{1}{2}$ of the sick pay allowance - provided they approve of the medical certificate (rule 4) & on condition that they are satisfied with the observance of the rules of the Club & Works by members. This sick pay allowance "will be forfeited at the firms will by serious infractions of the rules of members." (rule 20).

In the question-form. Mr T. has put down that there is a vast improvement during the last ten years. On questioning ~~those~~ closely I found that he was not much satisfied with the present state of things. The men do not it is true get drunk on the premises, because there are the strictest possible rules agst it but he doubted if there was much improvement as soon as they got away.

White Lead. Factory. in Bethnal Green.
Evidence taken from a working man - by the Rev: J. E. Hand of St John's. B. G.

1 Average weekly wages -
yard men. 19/- per week.
water mill men. 22/- when the washing machine is at work certain men earn 4d per day extra.
Oil men (mill men) at piece work 30/- to 36/- per week.

2. Busy in summer & slack in winter.

3. Overtime is worked, so that there is no necessity for taking on extra hands during busy season, who have to be subsequently discharged.
At certain times the regular hands work overtime, tho' rarely. for 3 hours at 4d per hour.

6. Little training is required - no man is taken on under 18 or 20.

6. Working hours from 6 to 6 ÷ 1½ for meals = 10½ per day - Saturday 6 to 1-30".

7. <u>No unions</u>.

8. Inhabits 3 rooms in a house ~~at~~ in Cambridge Heath. Bethnal Green. at 6/ per week rent.

9. Competition – there is an occasional case of foreigners working at this business.

10. The work is very unhealthy & poisonous. Men lose the use of their limbs. It affects men according to their constitutions. Some are driven mad. The gums are eaten off the teeth.

This man who was still at work in the Factory, was, Mr Hand assured me – suffering from paralysis in leaders of the hands. He had nothing to look forward to, but an increase of this disease & final complete disablement, when he would come on the parish – till death.

Messrs J. Robbins & Son. Bethnal Green.
Nitric & muriatic acid makers & rectifiers.
Dyers - & colour makers chemists.

Men come in to work as yard labourers at £1 per week & if sharp, are moved up to work at the stills, where they can earn fr. 26/- to 32/- a week.
The work is paid by the week of 56 hrs. for same class of work done during the night shift a man gets 4/- a week more.
Overtime is paid at rate of time & a half.
Beside those regularly employed on the works there are a class of extra labourers or odd men, who are paid off each night and receive 5½ an hour. if in work for the week they would get fr. 22/- to 25/- but it does not seem to be considered necessary to give them employment all the week.
There is no method of training & it does not follow that because a man has learnt this particular branch of still man's work that he is therefore fit to go off a

Table

take a position in other chemical work.
A man, consequently, who had worked his way up to earning 30/- or 32/- a week at this Factory, might have, if he chose to leave, ~~to go~~ back ~~to~~ the ordinary labourer's wage of £1 or £1-1 a week elsewhere.
There are no unions, as there is really no common basis for men working in this class of business to combine upon. The only union they might join would be the General Labourers.
No Friendly society in the Firm.
Here, as at one or two other chemical works army reserve men are preferred to others, as being more amenable to discipline & ready to carry out orders.
The business does not seem to be an unhealthy one. There are 2 men on the work who have been at this particular (nitric acid) work for over 30 years. one for 38 years, the other for 33 – The older man is 63 years of age, & complains only of being a bit "short of breath". He lives

of them seem to have suffered. Another man, whom we saw had been seven years at work on the premises & has been constantly engaged in carrying the acid. still warm & giving off fumes. from the first stills to the rectifying stills.

The fumes were escaping here & there in the stills, but. beyond an occasional whiff, of a rather pungent gas. this caused no unpleasantness. as the sheds were open on either side, and all fumes were taken straight off by the draught of air.

Nitric acid is produced by the distillation of fumes of vitriol & salt petre in combination. It is highly corrosive.

It is used for the production of nitro. benzol that is required for making aniline dyes. as well as for other purposes.

There is no foreign competition with Germany or other firms. the freight for acids on board ship being prohibitive.

Mr Robbins does not think much of foreign workmen.

Mr Grace. of H. & R. Grace. White lead Factory Bethnal Green.

Mostly time work.

Two classes of workmen.

1. White lead manufacture - 20/- to 22/- Foreman £2. not counting overtime.

2. Paint grinding - 26/- to 27/- Foreman £2.

About ⅓ of those employed are women. They are engaged in carrying pots of lead to & from the stacks. in which the lead is acted upon by sulphur vapours & is turned white.

Nov: & Dec: are the only slack months - as during that time the painters are generally out of work.

About ⅓ of the employed go off hop-picking in September.

There is no skill required - any body with a certain amount of physical strength could do the work.

Hours 59½:

Considerable competition with Germany & Belgium.

This information obtained for me
by Revd J. S. Hall of Bethnal Green.

Thos: Johnson. 6 Charles St. Bethnal Green.
for 5 years general labourer in Grace's
Whitelead factory. in the powder side.
Has to stand in front of the Casting machine.
to catch crates of lead & pile them.
Wages 19/- to £1.
His hand drops as if with a kind of paralysis
suppose pr: lead cholic. ~~tef~~
He left the Factory this year as he cant
manage the work any more.

Mr Swindle - manager. at Grace's Factory
says the Paint side is safe.
Powder side.
One day a man may feel all right & the
next he had perhaps for a fortnight.

Sept. 7.

Mr Stacey, relieving officer at Stepney Union, speaking of White Lead Works, of which there are two or three in the neighbourhood, said that most of the men employed are casual labourers who fail to get work elsewhere. They only come to the lead works as a last hope. They are taken on daily & are paid daily 4/- per day shift & 4/- per night, but are not often employed for more than 3 days in the week on account of the unhealthiness of the work, which would tell too much upon them.

Men working at the more dangerous processes stacking the leaden pots, or pans & carrying them to the furnace are paid 6/6 per day otherwise the conditions under which they work are very similar to those of the others. Women get about 11/- per week and are paid by the week. It often has a deleterious effect especially on women, & not infrequently affects the health of their children. Only the lowest class of workmen or the starving will take work at a white lead factory.

factory. & these are generally far from cleanly in their habits, or steady in character. Many of them have their constitutions undermined by overdrinking or underfeeding before entering the works, & the lead-dust acts as the last straw.

Many men who have had a taste of lead cholic prefer to go into the House in bad times rather than face the lead works again. Mr S. recollected a case where 5 strong had come up for the country & had been ~~was~~ obliged to enter the Lead Factory for want of other work. They were completely changed in appearance within 6 months becoming pale & emaciated. & were finally sent back to their homes by the C.O. Men are first affected by the cholic. Then their teeth blacken & fall out & finally seized with paralysis.

8th Sept. 1893.

103

Mrs Murphy. wife of William Murphy - dying of white lead poisoning at Stepney & Poplar Sick Asylum.

I went to see W.M. but found him unable to speak to me. Mrs Murphy gave following information.

Her husband had been at work for 12 years at the Stepney Lead Works (Johnson's). He had stood the work better than most. Up to 2 years ago he felt little harm from it. Then he was taken ill, & has been since that time more or less constantly in the sick asylum. He is now evidently dying. He was an old soldier - on his discharge in London, he did not know where to find work having no friends to help him. From irregular jobs at the Dockyard, he finally drifted into the lead works - a life most of those who fall into this position, he had never got out of it again. This, she said also holds good of the women. They rarely leave it, once they have been at work on the lead. It was there that her husband met

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8th Sept. 1873.

103

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her

103

Hours.

her and married her - she having also worked at the lead for some years now. They have 3 children.

William Murphy worked at the most unhealthy part. The stone work - He was only allowed to work three days in the week obtaining 7/6 per diem. The other men get 4/6 per day & the women 2/6 -

Mrs M. has the same yellow-looking skin as her husband - her teeth & eyes are both very bad - She told me he was only 41 - He looks like 70.

Hours are fr. 6 to 5.30 p.m - 1½ for meals & from 5.20 to 5.30 is allowed for washing hands & face etc. before leaving works. Altho' baths are prescribed by the Factory act - when the works are busy it is rare that workers can get their baths regularly once a week.

The women have to carry very heavy loads. and altho' they are out of the actual white lead dept & deal only with the "blue" they are nevertheless not free from danger as they

they have still to handle the pots or jars in which the white lead is manufactured from blue.

Messrs Bryant & Mays Works.

Appeared to be very large & well ventilated. Many labour saving machines lately introduced such as machine-filling - by which the racks for dipping are filled in rows of a hundred & the matches were cut off at the same time. This formerly was worked by a woman - who drew the knife along with her right hand - worked the onward movement of the ~~matches~~ wax taper - so that when one length had been cut off another might be ready for the knife - with the right foot & arranged the bars of the rack which held the matches together with the left hand. At present this is all done by a machine, & the woman has only to look after it. The labour is thus very much lighter.

There are 900 miles of wax taper prepared per diem when all the machines are in working

working order.

Most of the girls at work appear to be very young. fr: 16 to 21 or 22. There are a few elderly married women.

The girls are becoming more regular in their habits. Formerly when work was less regular than at present & the business cut up more by the seasons. there was far more going onion picking, fruit-picking & hop-picking than at present. But there are still a certain number who go. only of course they stand the chance of being out of work when they return. They are a rough looking lot of girls. They do not as a rule stay many years. 5 or 6 - at the most & generally leave when they marry - if they marry a good for. nothing husband who gets no work to do, they return to work at the factory & cases are not wanting where the husband lives off the earnings of the wife. They are generally temperate in their habits & only break out at holiday times such as Easter & Whitsun. There are institutions

to

to look after them. In of late years they have had the influence of these clubs - to which B & M. subscribe but with the management of which they have nothing to do, become more civilized and sensible in their habits.

There are a certain number of very early marriages among the work-people. But in regard to these questions neither Mr B. nor Mr Dixon could greatly enlighten me - They explained that they did not ask any questions of their people outside the factory gates.

It would be hard to believe that match making could be carried on under much healthier conditions. That at B. & M's, if the yellow phosphorus still produces necrosis, it clearly shows that it is impossible to avoid disease where that sort of phosphorus is used.

The girls are getting better about washing their hands etc. than formerly. The regulations have been far more strictly enforced.