





[1]

Section 27.
India rubber - gums etc.

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24 November.

Busy & slack times.

M^r Desgraboulet - of Crown Diamond Mfg Co.
48 Boundary Lane. Walworth.

This company manufactures a variety of gums, glues & varnishes & it is rather doubtful how far they should come under this section, or under chemicals - or under "glue" -

The decoration of the compounds is carried on under one of the partners personal supervision - There are one or two men who assist him - the other men are apparently foremen in the packing dept. who look after the boys - when busy there are about 6 boys to 1 man. according to present returns there are only 2 to each man.

Foremen receive up to 30/- & boys from 5/- to 7/- - These boys start from the ages of 12 to 16 and then generally leave to better themselves. The work is light & simple all they have to do being to fill bottles, cork & label them - ~~then~~

The busy & slack seasons are difficult to define - for when one article is "off" - the firm try as well as they can to bring on something suitable

suitable to the time of year. Thus, winter with long evenings at home is the best season for selling bottles of gum & household cement, as people make use of the time for sticking their broken china etc together. In the summer the kid reviver & yellow boot polish are in demand; & part of the summer a good deal of overtime had to be worked.

There is no foreign competition in these kinds of wares - except to some extent from America.

The greater part of the work is entirely unskilled & needs no training - the only skilled man being the partner who supervises the mixing etc of the products. There is no sort of training required - a boy learns his work in a week. The boys placed are much sought after as the work is not hard & keeps the boy in some sort of discipline after leaving school - before he settles down to some more regular employment.

27 Nov:

3.

Eastern Rubber Co. Tidal Basin - 2.
Mr Colwell -

The E. R. Co. have their works at Manchester. In London on Rubber Work they only employ two men & 3 boys. This is the case with the majority of Rubber manufacturers whose names are in the Directory. are in this case - having their works scattered all over the country -

Liverpool & London are the two principal markets for rubber.

Rubber products may be divided into 3 classes -

1. Rubber articles for mechanical appliances such as valves & packings. which form the great bulk of the E. R. Co's production.
2. Machine tools, & water proof garments.
3. Rubber toys, articles for games etc.

The great art in making the rubber lies in the mixing & this part is generally done by a skilled chemist. The men working under him being merely ordinary labourers who follow out his orders. Each firm has

generally

generally its own secret as regards mixings.
 & they are very jealous of letting strangers see
 round. Rubber is sold by weight. & the heavier
 it is the cheaper it is sold for lb. this is
 because the poorest rubber is the lightest
 & the heaviest contains the greatest mass of
 alloy.

The London manufacturing trade is mainly
 given up to valves & packings & to water-
 -proof garments. It is an increasing
 trade & competition among firms is forming
 rapidly. The Germans also compete a good
 deal in packings. The French in small
 rubber goods - toys etc. - French rubber is
 very good.

Packings are very varied. there are between
 100 & 200 kinds. The original patent was
 taken out by Tuck of Lambeth. but that
 has lapsed & all firms now make it. It is
 hardly worth taking out a patent for a
 new packing as it is so easily copied with
 slight variations. They are mostly made
 with an india rubber core - round which
 are

are wound - if the packing is round - sheets
of canvas painted with rubber dissolved
by naphtha. Reboiler layers treated with
rubber in a similar way are also used.

There are no special seasons for this style
of product. The values & packings are
mainly for marine engines - & the sale
therefore depends largely on shipping - Sometimes
they are extremely heavy one fortnight & quite
slack the next - it is impossible to describe
any definite seasons.

6th an hour overtime is the rate paid
to the men working at rubber.

A large number of girls are generally
employed on the easy work such as making
rubber rings. at which dexterity is the
only quality necessary. & that such girls
especially.

America goes in largely for buying waste
rubber & "renewing" it. but does not
compete in England against English manu-
facturers.

29 Nov. 1893.

M^r. Seston. of Hutchinson & Co. 70 Basinghall Street.

This firm do not manufacture in London or in England - their works are in France & Germany.

Quite $\frac{3}{4}$ of the names put down in the directory as india rubber manufacturers have got nothing to do with the making or mixing of rubber - & can hardly be called manufacturers in any sense. They may possibly do a little "cutting" & "making up" in connection with a retail business, but that will embrace the sum total of their operations as regards "manufacture". There are about half a dozen large firms in London really engaged in the manufacture of rubber - & that is all.

Every firm has its own secret mixings & varnishes. As regards the latter, the men who prepare them are extremely afraid of letting any one into the secret & always keep their cans under lock & key.

The firm do an enormous trade in rubber shoes

the latter

7.

shoes, & snow-boots, for Eastern Europe.
The shoes are their main spring trade
& part of summer - the snow shoes their autumn
trade as they have to get them into
Russian ports before the Baltic closes.

29 Nov.

Messrs Baddeley have already made
a return of wages & hours etc.

Messrs Baddeley & Reynolds - printers, stationers &
rubber stamp makers. Old Bailey.

Rubber stamp making is not a very highly
skilled trade. It has taken the place of
printers' composition stamps which were the
first stamps of the kind used, & has now
been in vogue for about 15 years. - The vulcanised
rubber being found to be much more easy
to work and almost as durable as metal.
It takes about one or two years to
become proficient in this line. Apprentices
are not taken.

There are practically no special seasons.
- men are kept going all the year round.
It is not an extensive trade as a few
men can turn out a large number of
stamps in a day & therefore there is no
great demand for labour. There are not
many small masters, as the rubber stamp
making business in itself is hardly
sufficient to keep anyone going, ^{exactly} & it
is usually an adjunct to some other
larger, stationers or printers' business.

29 Nov. 1893.

9.
Mr Smith of Smith's patent. India-rubber pneumatic
tyres - 252 Broad High St. S.E.

This industry is so new that it can hardly as yet be classified ^{or described} - It started into existence about 3 years ago & since that time about 2000 patents have been taken out or applied for - while something under 30 are being worked - Mr Smith thinks that 400 or 500 hundred persons are employed in London on this trade alone, of whom quite $\frac{2}{3}$ are women. The India rubber tyre manufacturers do not however manufacture their own India-rubber but buy the sheets or tubes as they want them ready made from India rubber manufacturers, which are then cut up & made up as required. The women who have gone into this pneumatic tyre trade are mostly persons who have been in some rubber factory & understand the working of rubber solutions over canvass - some tyres are also made in that way - & the sticking

sticking together of rubber sheets. etc.

Women are far better than men for most of this work.

As regards the mens work, it cannot be said to be highly skilled, and is now much subdivided. A lad very quickly learns what he has to do in one particular section of the work & then he sticks to that & that alone.

The busy season is of course the summer fr: February to July. but ^{the} necessity of meeting the summer demand requires work in the winter in order to stock up - then also there are foreign orders & colonial orders to supply, for at present England has almost the entire trade so far as bicycle tyres go in her own hands. & exports quite as much to European countries as to India & the colonies. the Pneumatic Tyre Co. are working overtime at the present moment, which is the slackest or about the slackest time for home orders. Their shares rose to £26 in 3 years!

1 Dec 1893.

11,
Messrs Hooper's Telegraph & India Rubber Wks.
City address. 21 Lombard St. - Wks. Millwall Dock St.

There appears to be considerable irregularity in their work, which depends largely upon contracts for cables from Gov^{ts} - On one occasion the firm employed 116 men & women in one week, in another at a slack period during the summer of this year the employees had dropped to 16. ~~And~~ who constitute, as it were, a nucleus of permanent hands knowing the work & able to instruct others as soon as work comes in. There are always plenty of people to be got as soon as there is a contract on hand - most of them are ~~men~~ & women who have been at the India Rubber works at previous times and thus know something of the work, and do not have to be taught it from the beginning. Of these "floating" workmen the majority are paid 2s/-, no fully grown man receives less, while no women

woman receives less than 12 shillings a week - Boys & girls from 9/- upwards.

The hours are 9 a day.

There are also other branches upon which messrs Hooper are employed such as waterproof sheeting - in which they can keep their permanent staff employed during slack seasons when no cables are being made. but these appear to be only a very minor part of the business.

They never find any difficulty in obtaining work-people at the rates of wages stated - the work being generally of an unskilled kind, the men are of the general labourer class - while the women are presumably those who have worked before at the rubber & who after marriage are nothing loath to go back for a few weeks at 12/- a week when the opportunity offers.

11th Dec:

13.

M^r Hooper of Hoopers' Telegraph Co.

There is considerable irregularity of employment in the cable-making part of the works, since this business depends entirely upon Gov^t contracts. All the cables that have been made here for some years are torpedo cables. The Gov^t orders usually come out about March 5, that is the time when any contracts there that is the busiest season of the year -

The work cannot be called skilled work, a very little of it has anything to do with india rubber - except the actual mixing of the compounds. The india rubber comes in in "bottles" - i.e. hollow blocks. The reason of this is that the rubber is collected in the first instance round clay balls, which are subsequently extracted - Rubber is then "puddled" & comes out in films looking sheets, next it is "masticated" in a machine by which process all the air is extracted, & then it is finally

compressed

into a solid cylindrical block. fr. which
the rubber sheets are cut off by machinery
according to the thickness required.

There is also - beside the cable making
department - a small depart for
making water beds. of rubber at which
a few women are employed - But there
appears to be but little going on at
the works at present.

The work is practically unskilled - what
skill there is, being quickly acquired.
& generally speaking useless outside the
gates of the factory. Those who know something
of cable - work move from one factory
to another in accordance with the
taking up of contracts. there is never
any difficulty in getting labour when
it is wanted -

All work is really done by machinery.
so that it takes my very short time
to get into the way of it.

The best rubber comes from Parana
in Brazil. Mr Hooper will send full
returns.

20th Dec.

Hours.

Wages.

Regularity

Interviewed a number of men working at Ingram's India rubber factory in Hackney Wick. at the club opposite Eton Mission, Juniors' Road.

In summer are 6.30 to 6 - 1½ for week
- winter. 7 " " " " " "

on Saturdays 4½ hrs. working in summer
57½ per week in winter 52.

On Mondays frequently work only from 7 to 5
working another hour less.

The wages average for the men about
5^s per hour. but many young men
of 21 & 22 are not earning more than
4^s or 4½^s. - A new hand gets taken on
at 4^s. The average weekly wage
throughout the year would be about
£1 or £1.10 counting holidays etc.
there are something like 400 hands
employed. women 200. men 100 & boys
100. These figures are only approximate.
Work is fairly regular. Throughout the
year. but there is variation in the
different departments. Men shift from
one

me department to another, as required. Work is evidently not very skilled though from the class of men employed.

The men shift away into any other employment that are rather better paid such for instance as chemical works, whenever they get the opportunity - unless they stand the chance of rising into favour - of whom there are 20 earning from 30p to £3.

The works have grown very considerably during the last few years, & a great variety of articles is made. Foot balls are greatly on the increase.

The vulcanizing shops is the most disagreeable part of the work. Girls in it often faint, & have to go out into the open air for some time before being able to resume work. One Vesey of the mission told me he knew personally of a case of a boy who had fainted in the shop several times.

29th Dec.

14.

M^r Christian Gray. manager. of india rubber
etc. works. Silvertown.

The great majority of workpeople can
hardly be termed skilled - like the chemical
& soap laborers there come between the
skilled and unskilled - but unlike the
chemical workers, such skill as they
acquire is of value - as a general rule -
in other rubber factories - especially if
they have sufficient ingenuity to be
able to describe machinery with which
they have come in contact.

A few men however, are really skilled
such as the "calender men" who attend
to the last process of which rubber is
pressed out between heavy rollers or
calenders into sheets of the required
thickness. There is considerable skill in
manipulating this machinery - the proper
production of the rubber sheet depends
largely upon the temperature of the rubber
as well as upon that of the calenders
through which it passes - this can only
be

Secrecy.

be learnt after long experience. There are 3 first class calender men, & 3 second class.

In sorting the raw rubbers also ~~with~~ knowledge is required. There are something like 50 different kinds of raw rubber, each having peculiar properties, & being used for different purposes. There are about 3 men engaged in this sorting business in the firm.

The trade is an extremely secret one. Each firm works in a style of its own has its own separate machinery & its own special mixings. In regard to the latter only two people in Silverstone works know the secrets - the head chemist & his boy. The only intercommunication between firms is by means of men who shift. Therefore firms try as much as possible to keep the higher & more intelligent class of men so they do not desire to have their special machines made the common property of the trade in general. Even tho' a workman cannot draw a machine to scale he can

often

often give a sufficiently accurate description
of a machine ^{to enable} ~~for~~ an engineer to build it
up. more or less accurately.

The trade is rapidly growing & increasing
every year sees some new extension of the
purposes to which rubber can be put.

This is probably one of the few trades in
which we are cutting out German trade -
a fact which we joyfully attribute to the
superiority of our labour saving machinery.

As an instance of this he quoted lawn tennis
balls which a few years ago were almost
entirely in German hands, and have now
been practically wrested from Germany.

Some other instances also were given
of our successful competition against Germany.

As soon as we can get in good machinery
we can laugh at cheap wages, for it
simply means a reduction of the wages
then to a minimum. if you only have
1 man to do the work which 8 men
did before you can afford to pay
your one man well, & get cut away
the

the ground from under the feet of other people who still employ their 8 men even at starvation wages.

Football bladder is another of the new manufactures which has increased at an extraordinary rate.

Altogether Mr. J. is of opinion that rubber and industry is still in its infancy, and there seems to be no limit to the use to which it can be put. There is no hand-book to show a man the way in regard to it - no regular system to work upon. Each manufacturer works entirely independent of any other and the only way to keep one's head above water is by constantly finding out where a market may be won and then by the improvement of machinery, or preparation of the raw material going into winning it. The only thing is to be sure that there is a demand and not to spend several thousands in machinery to produce some article for which you may afterwards find

Regularities

sale.

The work of the different departments is extremely varied & almost each has its own seasons. Waterproofing for instance for wet ^{season} & lawn tennis balls for the early spring & to a slight extent in the winter for a month or two - Soda water bottles ^{stop} mainly in the summer. football bladders in the autumn. etc. etc. There is really no end to the variety of small goods made. ^{The season of} many of these departments dovetail into one another & ~~as~~ people are thus passed from one shop to another as occasion requires. On the whole there is no great irregularity of employment. The central or milline shop is always at work & frequently has to make overtime work to the constant extension of trade. To avoid this overtime which h.g. dislikes. the size of this shop is now being increased, but it is impossible to say ^{for} how long this expansion will suffice.

The one serious cause of irregularity in cables.

cables. When a large order comes in it means that something like 600 extra hands are taken on. These men are a sort of floating quantity moving from one large cable making firm to another according as they obtain their orders. There are 2 or 3 more large firms doing business in the neighbourhood so that there is never any difficulty in obtaining labour.

The tyre manufacture is also a largely growing one. Both for bicycles & carriage & cab wheels. As regards these the india rubber manufacturers really make the rubber sheets for the tyres. Sometimes finishing them through out. While the great mass of so-called tyre makers simply ^{stick in the cloth of} fasten them together putting in valves if their own make or some other small addition, which they have probably patented.

Waterproof cloth is made in two ways one by applying several coatings of rubber in solution with naphtha when it is of about the same consistency as butter or

a hot day with a long knife, below which the cloth or silk is drawn very slowly over a smooth surface, very much as butter is applied to bread - As the cloth is slowly drawn along - the naphtha evaporates leaving the thin coating of rubber - ~~sometimes~~ ^{then} or two more coatings of rubber are thus applied before the goods are fit for making up.

£7000 is lost annually to the Company owing to this evaporation of naphtha - & this is a loss which will probably some day have to be avoided. at present the machinery by which the naphtha fumes could be recaptured is too expensive. & as no other firms have started it. it is not considered worth while at Silvertown to do so.

The smell of naphtha in this shop is rather overpowering. It is said however that men get accustomed to it. It is also strong in the waterproof cutting and sticking shop where women are principally employed.

The

The smells emanating from a rubber factory are almost as various & multitudinous as the different qualities of mixed rubbers used for different articles. These are said to amount to something like 7,000!

The only unhealthy process is that which is called "cold" vulcanizing in which carbonate of sulphur & bi-chromate of (~~potash~~?) are used. The former attacks the tissues of the stomach & weakens a man generally.

Mr Gray said that to work in this shop acts as a preventive agst having a large family & for this reason as well as the higher pay it is considerably sought after. The bi-chromate attacks the throat & gland & has been known in one case to affect the voice driving a man completely out of his mind - men are not allowed to work at this cold vulcanizing for any great length of time at a stretch, but are put on to some other dept! as soon as they begin to show signs of breaking down. - This cold vulcanizing is only used for

waterproofs

waterproof and cloths, which cannot now go through the ordinary or expensive process of vulcanization.

Gutta percha is a perfectly different substance fr. rubber, & comes from a different tree. It is plastic, but not elastic, & is an excellent non-conductor. Its principal use in trade is in cable & all kinds of electric work; & is not a large trade outside that.

The main markets for India rubber are Liverpool, London & Amsterdam. The northern countries & 'Edinburgh' are more representative of the ~~London~~ rubber manufacturing industry than London is. By far the larger number of the London firms who enter themselves in the directory as Manuf^{rs} are only dealers.

Most of the workshops are long airy rooms. Every where is a strong & to the unaccustomed nose almost overpowering smell of rubber in various stages of composition. & in the water proofing depart^{mt}

the matter is too delicate odour of gas that prevails.

Where machinery is not employed, the men or women sit at long tables stretching from one end of the room to the other - over which at a very few yards distance hang an electric light.

In some shops - such as that of the new machinery for the screw soda water bottle stoppers a large number of boys are employed. A very considerable sum £7000 or thereabouts I think Mr Gray said, had lately been spent on the branch in which the Germans were now being completely beaten, after having practically created it.

A considerable amount of sweating goes on in the waterproofing trade in the East End, which is largely in the hands of the Jews. These people send their own cloth in to be water proofed - i.e. have the solution of rubber spread over it - & then have it made up in their workshops - paying about 2^d or 3^d for each garment, where

Pilvers

Pilvers' pay something like 1/- to 1/6-
there are no unions-









