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SIEPSEN'S CONDON FILES

(147 PAGES)

FRAGILE

FOLDER 7

W. K. Sieplein

Mar. 27, 1905.

Factory records taken to England
by me when I went there as
Supt of Lewis Bergs Sons Plant

W. K. Sieplein





SHERWIN-WILLIAMS CO.
PAINT MAKERS
CLEVELAND, CHICAGO, NEWARK,
KANSAS CITY, NEW YORK, SAN FRANCISCO, MONTREAL,
DALLAS, TEX., BOSTON, LOS ANGELES, TORONTO,
MINNEAPOLIS, SAVANNAH, SAN DIEGO, WINNIPEG,
CINCINNATI, BUFFALO, PORTLAND, ORE., LONDON, ENG.

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ENGINEERING & CONSTRUCTION DEPARTMENT
F. W. BALLARD, MANAGER

501 CANAL ROAD, N. W., CLEVELAND

Oct. 4, 1907

Mr. W. R. Sieplein,

The Sherwin-Williams Co.,

London, England.

My dear Mr. Sieplein:-

I have your favor of September 18th and was very glad indeed to receive such a cordial and friendly letter from yourself. It reminds me of the old times when we were running the Mechanical Department here together.

I am very glad indeed to know that you are getting along so well in London and that you are making a big success of the business there.

I have been looking over the photographs which you sent to Mr. Tandy with a great deal of interest and can see some of the results of your Cleveland experience in the different layouts of machinery shown therein.

You will, of course, be very glad indeed to know of the increased responsibilities which have come to my Department. I suppose Mr. Cottingham has no doubt told you all about the organization along these lines, and anything I might say would probably be superfluous. I am, however, enclosing herewith a blue print showing the organization of my Department in which you will no doubt be interested.

I was very much interested in your account of the way you have been spending your holidays and hope some day to be able to be with you on some of your trips over some of the many interesting journeys which are, no doubt, to be had in your Country. I do not know, however, when it will be possible for me to get away. I seem to be tied pretty closely here now, and it is very difficult for me to leave long enough to make the necessary trips around to the branch factories. I did, however, spend two weeks of the summer at Lake Temagami in the heights of Northern Ontario, and made some splendid catches of the finny denizens of that country. I will not try to tell you of the weight and size of some of the fish we caught; I only wish I could show you some of their photographs, which it has been necessary for me to use in conjunction with my stories around here.

Wishing you all the success in the world, I am,

Very sincerely yours,

FWB-EE.

F. W. Ballard

0007-SWP-000121965

CLEVELAND FACTORY ORGANIZATION

The Cleveland Factory is divided up in the following Departments:

Factory Office A Dept. B " " C " " D " " Oil & Japan Dept. Varnish Practical Testing Laboratory including Experimental Dept. Stores & Receiving Dept. covering all raw material supply. Mechanical Dept. including Power Dept., Maintenance of Plant. Tin Can Dept. Finishing Dept.-care of all manufactured stock and filling of orders. All of these departments are under the direct charge of a foreman.	All Factory Records Manufacturing all Oil Paste Paints. " " " Liquid Paints. " " Japan Colors " " Varnish Paints " " Special Oils & Japans " " Varnishes
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These departments are under a Superintendent in direct charge of all paint and varnish manufacture, exercising direct supervision over the Varnish Dept., Oil & Japan Dept., B Dept. and with an assistant in charge of the practical Testing Laboratory, A Dept., C Dept. D Dept., and Experimental Dept. At present the auxiliary departments do not report to this superintendent but instead the Receiving & Stores and Finishing Dept. report to the General Superintendent's office. The Factory Office is under the general direction of the auditor. The Tin Can Dept. is under the direct supervision of the Mechanical Engineer who is also in direct charge of the Power & Mechanical Depts. and reports to the General Superintendent. (See also p. 2 of this report)

All of the foremen are on the monthly roll. The men in the departments are paid at a definite rate per hour. In the Grinding Depts. the rate is from 3 to 10¢ per hour for boys who start in as apprentices and remain at that rate until their ability is proven when they are increased from 12½¢ to 15¢ per hour for all ordinary work. As they develop further their rates are increased to 15 to 17½¢ per hour which would cover all ordinary work for grinding and filling paste paints. The men in charge of a line of materials who act as sub-foremen earn from 20 to 27½¢ per hour. The general rate for mixing is from 15 to 17½¢ per hour for the ordinary work in starting and as a man becomes more expert the rate is increased from 17½¢ to 20¢ per hour. The mixer sub-foreman earn from 20 to 30¢ per hour. The Liquid Paint fillers earn from 15 to 20¢ per hour and the sub-foreman 22½¢ per hour. The general rate for solderers is 17½¢ per hour with piece work.

The Oil & Japan Dept. rate is from 17½¢ to 18½¢ per hour. The Varnish Manufacturing is from 15 to 22½¢ for the men engaged in the cooking, thinning or filtering of Varnish. The general men earn from 15 to 17½¢. The gum sorters from 11½¢ to 16½¢ per hour. The men engaged in the Varnish filling and storage rooms earn from 15 to 18½¢ per hour. The sub-foremen 20¢ per hour.

The Receiving & Stores Dept. men earn at the rate of 15 to 16½¢ per hour at starting and are increased as they become more familiar with the work to 17½¢ and 18½¢, the sub-foreman earning 22½¢.

The general rate in the Finishing Dept. is 15¢ per hour at starting which is increased to 16½¢ to 18½¢ and later to 20¢. For sub-foremen who may get as much as 22½¢. Laborers earn 10¢ per hour on piece work.

The equipment in A Dept. consists of 22 - 30" mixers, 2 - 20" portable mixers, 1 roller mill, 21 - 30" mills and 2 - 21" mills. The capacity of this department is from 25,000 to 30,000 of Paste Paint per day. The organization necessary to operate this department consists of one foreman and a clerk, 1 head mixer at 22½¢, 6 mixers - 2 at 17½¢, 3 at 18½¢ and 1 at 20¢, 1 janitor at 15¢, 1 grinder at 22½¢, 1 ass't grinder at 20¢, 3 fillers or mill men - 2 at 15¢, 3 at 16½¢ and 3 at 17½¢, 1 mill dresser at 17½¢, 1 solderer at 17½¢, 2 coopers - 1 at 22½¢ and 1 at 17½¢, 1 cap stamper at 12½¢ and 1 janitor at 17½¢.

The B Dept. equipment consists of 14 - 30" mills, 28- 30" mixers equipped with measuring tanks, 14 - 300 gallon thinning tubs operated in connection with 37 mixing tanks of from 300 to 350 gallons capacity and 35 tanks - 180 gallons capacity. The total average capacity in this department is from 3000 to 3500 gallons of Liquid Paint per day. The number of men necessary to handle the department are 1 foreman, 3 mixers at 20¢ per hour, 1 at 22½¢, 2 men to look after the grinding at 22½¢, 1 man to do the shading of colors at 22½¢, 1 janitor and general man at 15 or 16½¢ per hour.

3 Filling Dept. is under the charge of a foreman and requires 4 fillers - 1 at 22½¢, 2 at 16½¢ and 1 at 17½¢, 1 solderer at 17½¢ working on piece work, 1 cap stamper at 10¢ and 1 man to put on caps at 13½¢ per hour.

The C Dept. equipment consists of 10- 30" stationary mixers, 6 - 24" portable mixers and 6 - 20" portable mixers. 33 - 21" mills with hoppers, 5 - 10" Mills with hoppers and 2 - 12" iron mills. The average daily capacity for the average line of Q. D. goods is 5000¢. The number of men to operate the equipment are 1 foreman and 1 clerk. Mixing - 1 head mixer at 30¢, 10 mixers - 1 at 15¢, 2 at 16½¢, 2 at 20¢ and 5 at 22½¢, 1 delivery man at 16¢ and 1 janitor at 15¢. Grinding & Filling - 3 grinders - 1 at 20¢, 1 at 25¢ and 1 at 27½¢, 6 mill men - 1 at 12½¢, 1 at 13½¢, 2 at 15¢ and 2 at 17½¢, 1 mill dresser at 17½¢, 1 hopper filler at 17½¢, 1 cap stamper at 12½¢, 1 solderer at 16½¢, 1 collector at 15¢, 1 janitor at 16½¢ and 1 elevator man at 15¢.

The D Dept. equipment consists of 26 - 30" mixer tubs, 3 - 50 gallon thinning tanks, 15 - 200 gallon thinning tanks, 15 - 200 gallon filling tanks, 4 - 5 gallon filling tanks, 17 - 21" mills, and 4 - 30" mills. The capacity on packages daily is 15,000 and on Sol-or Varnish 1500 gallons. The number of men to operate this equipment are - 1 foreman and 1 clerk. Mixing & Grinding - 1 head mixer at 22½¢, 1 grinder at 20¢, 12 mixers - 3 at 15¢, 3 at 16½¢, 1 at 16½¢, 3 at 17½¢ and 2 at 20¢, 1 head filler at 22½¢, 1 assistant filler at 21¢, 3 fillers - 2 at 15¢, 2 at 16½¢, 3 at 17½¢ and 2 at 18½¢, 2 cappers - 1 at 18½¢ and 1 at 10¢, 2 solderers at 17½¢ and 2 janitors at 15 and 16½¢.

The Varnish Dept. equipment consists of 8 fires, 14 copper kettles 180 gallons each, 4 small copper kettles 50 to 100 gallons, 3 steel kettles 250 gallons, 3 reducing tanks, 2 - 24" filter presses. The capacity of the department is about 2500 gallons per day. The storage capacity aggregating 250,000 gallons, is provided by tanks of 6 - 12 and 25 barrels capacity. The force in the department consists of 1 varnish maker, 1 clerk, 1 sub foreman, 4 men melting gum - 2 at 15¢ and 1 at 17½¢ and 1 at 21½¢, 2 reducing varnish at 21½¢, 2 filtering varnish - 1 at 16½¢ and 1 at 20¢, 1 pump man at 17½¢, 1 janitor at 17½¢, 3 sorting gum - 1 at 11½¢, 1 at 15¢ and 1 at 16¢.

Varnish Filling & Storage Dept. is in charge of a sub-foreman who earns 20¢ per hour. 6 men are engaged in the filling of varnish - 3 at 15¢, 2 at 16½¢ and 1 at 17½¢. 2 men engaged in the blending of varnish - 1 at 16½¢ and 1 at 18½¢. 3 men are engaged in the proper care of the storage tanks - 1 at 15¢, 1 at 17½¢ and 1 at 18½¢. 2 men are engaged in the cooping and finishing of varnish barrels - 1 at 17½¢ and 1 at 22½¢.

Oil & Japan Dept. equipment consists of 3 - 300 gallon brick set steel kettles placed over gas fires with further necessary equipment for the central pumping station which delivers oils to all parts of the factory. The capacity of this department is practically 12,000 gallons of Japan similar to Q, or 2600 gallons of Japan similar to V, per day. There are 4 men engaged in the cooking of Japan - 3 at 17½¢ and 1 at 18½¢, and 3 men are engaged in the pumping of Oils & Japans at 17½¢.

The Receiving & Stores Department has one storekeeper, one store room clerk and one store room deliver boy. 1 foreman at 22½¢, 3 men at 18½¢, 5 men at 17½¢, 4 at 16½¢ and 1 at 15¢. This includes 1 elevator man, 3 men at cleaning barrels and 2 janitors.

The Finishing Dept. is divided into A - B - C - D and Varnish Packing Depts. and requires the following men in each dept.

A Packing - 1 sub-foreman at 21½¢, 3 labelers - 1 at 8¢ and 2 at 10¢, 5 other men - 2 at 16½¢, 1 at 18½¢ and 2 at 15¢.

B Packing - 1 sub-foreman at 21 $\frac{1}{2}$ ¢, 2 labelers at 10¢, 11 men - 1 at 13 $\frac{1}{2}$ ¢, 7 at 16 $\frac{1}{2}$ ¢
1 at 17 $\frac{1}{2}$ ¢, 2 at 20¢.

C Packing - 1 sub-foreman at 20¢, 2 labelers - 1 at 9¢ and 1 at 10¢, 2 men at 17 $\frac{1}{2}$ ¢.

D Packing - 1 sub-foreman at 20¢, 1 labeler at 8¢, 3 men - 1 at 12 $\frac{1}{2}$ ¢, 1 at 16 $\frac{1}{2}$ ¢
and 1 at 17 $\frac{1}{2}$ ¢.

Varnish Packing - 2 labelers - 1 at 8¢ and 1 at 10¢, 2 men - 1 at 15¢ and 1 at 16 $\frac{1}{2}$ ¢

GENERAL MANUFACTURING PROCESS

In the process of manufacturing the first thing is to establish satisfactory standards of raw material and standard formulas. These raw material standards are decided upon after the Purchasing Dept. searches the market for suitable materials and for anything new which may develop. The chemical laboratory, testing room and experimental department are maintained for the purpose of research and testing of these raw materials. After a material has passed satisfactory tests it may be accepted as a standard.

The next step is to make up a formula which is then made up in a small way and the finished product subjected to careful tests in every way. When the formula is once decided upon it is considered as the standard and no deviation from this formula is allowed except on the approval of the factory management. All formulas are assigned and numbered which is the name by which the goods are always known. All of the raw materials are also known by a system of numbers using a number in a circle to designate the oils. The raw material stock is kept in the Stores Dept. Orders are placed as described in the Raw Material Supply. As the goods are received they are tested in both a chemical and practical way and unless they are equal to the standards in every respect they are rejected. The various grinding departments draw from the stores such materials as they require.

The manufactured stock is all under the charge of the stockkeeper who is the head of the Finishing Dept. This stock is kept up to a limit based upon the sale for last year which is generally 1/6 of last years sale. Orders are placed on the factory to replenish this stock or to make special goods for some particular purpose. These orders are sent to the Superintendent who after approving them passes them on to the department which is to grind the goods. In case of a stock order this department holds the order until sufficient quantity has accumulated on order to manufacture a large enough run or as soon as a mill is available. In case of an order holding the goods are placed on a mill at once. The department then calls for a formula and on its receipt the foreman gives instructions in writing to the mixers. When the batch is mixed the color is passed upon by the foreman and then sent to the Superintendent for final approval. Nothing is allowed to be filled until it has passed the approval of the Superintendent and in every way has come up to the standard. This frequently necessitates practical working tests so that the material is not filled until the result of this test may be known. The goods are then ground, filled into packages, soldered and sent to the Finishing Dept. where they are carefully checked, the Finishing Dept. receipt checking against the output. They are then labeled and the report of the labeling carefully checked against the delivery from the department.

The finished material is kept in stock as outlined in the stockkeeping method. The orders are packed up as outlined in the "system for handling orders in the stockkeeping dept." Particular stress is laid upon the prompt and accurate filling of all orders.

MONTHLY FACTORY REPORTS

FORM	NAME	COPIES	WHEN DUE
A 4	Factory Output	2 Complete-1 Recap.	6th
A 4 v	Oil & Varnish Output	2 " 1 "	"
A 17 b	Factory Expense	1 "	5th
A 17 a	" Service	2 "	6th
A 10	" Balance Sheet (Year to date and for month)	2	"
A 19 B	Attendance & Promptitude	2	2nd
A 45	Mfg. Dept. Service Ex. & Output	3	8th
45 R	Plant Account	1	6th
A 49 B	Raw Material Consumption	2	2nd
No Blank	Consump. & Avg. Cost L.O. & Turp.	2	"
G 9	Value Mfgd. Goods Factory Costs	2	18th
G 4 b	Monthly Inspection	5	Day after Inspection
GS 1	Admn. & Gen'l. Supervision	2	8th
GS 2	Factory Office & Gen'l. Expense	2	"
GS 3	Receiving & Stores	3	"
GS 4	Power Dept.	4	"
GS 5	All Mfg. Depts.	3	"
GS 6	Oil & Japan Dept.	3	"
GS 7	Varnish Dept. 1 Var. Mfg. 1 Var. Fill.	2	"
GS 8	Tin Can Dept.	3	"
GS 9	Finishing Dept.	3	"
GS 10	Mechanical Dept.	3	"
GS 11	Maintenance of Plant	3	"
GS 13	Units of Output	2	6th
G 23 a	Report of Wages	1	"
G 23 b	"	3	10th
A 25 b	Pay Roll Report	1	3 Days after close of pay
G 15	Mechanical Dept. Report of meter readings	1	2nd
No Blank	Job Orders Issued	1	"
"	Unfinished Job Orders	1	"
"	Job Order Material on Hand	1	"
"	Tin Can Dept. Monthly Report of wasted can parts	1	6th
"	Report of Store Room Account	1	"
A 43	Weekly Report of Orders	3	Monday
G 31	" " " Filled	3	"
G 31	Monthly " " "	3	2nd
A 27	Sales & Output	1	8th
No Blank	Consumption & Stock of 112 & 113	2	1st
"	Fire Inspection	2	"

COST BASIS AND G. S. REPORTS.

The new basis for figuring costs has just been put into effect in the Cleveland Factory beginning the 1st of March. The fundamental principle in this is to charge direct to the product all possible service and expense. It has been arranged to charge all productive service to formulas by having the workmen report this on their time cards as outlined in the following pages, covering the distribution of time in the Grinding, Oil & Japan and Varnish Depts. The general supervision cost which covers that of the General Superintendent, Laboratory, Experimental Dept., Testing Room and local Superintendent are divided up on a basis somewhat arbitrary but based upon the non-productive service of the department. This may be changed slightly and it is possible that later may definitely decide to divide such burden as a definite percentage of the entire department of productive and non-productive service. The difficulty in dividing this up lies in the fact that the Laboratory, Experimental Dept. and Testing Room which costs are all for research, and testing raw materials certainly do not apply to the Tin Can Dept., Finishing and Power Depts. This and the sub-division of other charges is shown in detail on the following pages.

The office and general expense is divided up on an arbitrary basis, considering the quantity of output and the amount of labor applied. The Purchasing Dept. and Receiving & Stores expense are added as a definite percentage to the value of the raw material. This figures 1% in the Cleveland Factory. This 1% is added to the delivered cost of raw material when making up the raw material cost chart card. These three items cover the entire quantity of burden figured into the prime factory cost of output. They are assembled on monthly G. S. Reports showing full detail of the month and year to date compared with the same figures for last year and in the case of General Superintendent - Office & General are distributed over the productive department reports every month. The cost of the Power Dept. is accounted for in the same way and is distributed between all departments as shown on the Power Dept. G. S. Report. This power is charged out at a fixed rate per K.W. at present 3¢ per K.W. hour. This makes the cost in the department vary only as the consumption varies. The Power Dept. therefore showing a surplus or deficit.

A similar report is made up for each productive department showing the productive service of grinding and filling. This statement also shows the non-productive or undistributed service in the department to which is added the item from the monthly roll covering the cost of service for the foreman and department clerk. To this is added the further burden of General Supervision and Office & General Expense making a total cost of fixed charge in the department which is figured as a definite percent against productive service thus showing immediately whether or not the percent in force decided upon at the beginning of the year is correct.

The grinding cost in each department is determined by taking the cost for power including light and heat and grinding expense (11 Acct) to get the total cost for running mills. This divided by the number of mill hours shows the cost per hour which can thus readily be compared with the cost decided upon at the beginning of the year, thereby showing immediately whether the estimates in use are approximately correct. This method eliminates from the grinding cost everything except the actual cost of running the mills and is a much more fair basis than to include any service in the grinding rate.

The cost for soldering and handling packages is so much the same with all different materials that it is considered unnecessary to charge this directly to each run. This is therefore averaged by putting together the entire cost for handling packages and the filling expense (12 Acct) At the end of the year the cost of handling and closing up per hundred packages is determined by reducing cans and pails to the unit equal to cans and thus finding the cost per hundred units. In B and D Depts. as there is no solder used on the small sizes this basis should be one unit for cans and two units for pails and 5 gallon cans. In A and C Depts. where the smaller cans use solder the basis is one unit for all cans and press cans and $\frac{1}{2}$ units for all pails.

This cost is added in with the package cost which is figured by taking the can and adding to it the cost of the cap, the label, labeling, filling or handling expense, and packing expense, thus getting the total cost for everything that enters into the package.

The Oil & Japan Dept. and Varnish Dept. costs are figured in practically the same way as other productive departments except that the department expenses are added with the non-productive and the burden and figured as a definite percentage against the productive service.

The Finishing Dept. cost is figured by taking the total expense and service in the department and the cost of packing materials and dividing it by the total factory output reduced to a basis of units equal to $1\frac{1}{2}$ of Paste Paints or $1\frac{1}{4}$ Pt. of Liquid Paints. It is considered that the finishing cost will be practically the same with all colors and therefore it is quite as satisfactory to average the cost.

This basis is figured at the end of the year and the actual costs determined in this way is used for the estimate of all cost figuring for the following year, unless there is some very radical change in conditions which necessitates a readjustment. As this same basis continues to be figured every month it makes it possible to see how close the estimate in use compares with the actual expense of the department. It is in every way a much more simple, direct and accurate way of figuring costs than the methods previously employed. The formulas are figured as outlined in the following pages showing first the cost of all material used and in the case of varnish formulas, also showing the cost of coke used. To this is added the cost for grinding and the productive labor which was applied direct and to which is added the percentage of non-productive service and fixed charge in the department, thus getting a total cost of all material and expense applied up to the time the goods are filled thus showing the bulk cost per hundred pounds or gallons. To this is added the package cost determined upon as explained above to get the factory cost. In reporting such costs to the Sales Dept. a percentage ($33\frac{1}{3}$) is added to cover general expense.

General Accounting Department

Bulletin No. 157

July 27, 1906

Subject FIGURING COSTS FOR CLEVELAND
CHICAGO AND NEWARK FACTORIES For
IN GENERAL ACCOUNTING DEPT.

AUG 13 1906

Dear Sir:

From Sept. 1st, 1906, the figuring of Paint and Varnish costs for Cleveland, Chicago and Newark Factories will be done in the General Accounting Dept., according to the following plan:

1. The above factories will make out their A1 Liquid Paint, A2 Paste Paint, A2 Vm Varnish Manufacturing and A2 Vf Varnish Filling Formula or Rx slips and the B1, B2 and B2 Hf grinding or filling slips as at present.

2. The time charged on the workmens' time cards against each Formula or slip will be entered on the filling slips at each factory as at present; the output reported each day on the department mixing, grinding and filling reports and the mill hours will also be entered on the filling slips as at the present time.

3. When the Rx slips are turned in at the factory office, completed, the latter shall foot the output shown on the filling slips and see that it balances with the total quantity of materials reported and as used on the Rx slips.

4. The quantities of each size package filled will be entered from the filling slips to the backs of the Rx slips, the total amount of productive labor and mill hours entered on the face of the latter, and the prices of raw materials used will be entered from the B16 Stock cards, after which the Rx slips will be sent to the General Accounting Dept.

5. The factories will also send the General Accounting Dept. a carbon or other copy of the daily mixing, grinding and filling reports and A16 Daily Factory Output report.

(After this plan has been running for a short time we feel safe in saying that the copies of the mixing, grinding and filling reports can be discontinued, but for the time being we wish to be on the safe side in order to get a clean start. The foremen may be instructed to make carbon copies of their reports or the copies may be made in the office, but in either case be sure they are correct).

6. The A16 Daily Factory Output reports, when received, will be entered in the No. 21 Daily Works Output book, thus making it no longer necessary for the factories to keep this record.

7. The General Accounting Dept. when the Rx slips are received from the factories, will extend the values of materials used and figure the face of the slip to the Bulk cost, which will always be compared with the record of previous slips of the same Rx number, after which the backs of the slip will be figured and balanced.

8. The quantities, cost and value will then be entered on the A22 and B16b output cards and next on the Aid Analysis of Formulas sheets, after which the ~~filling~~ slips will be returned to the local factory for filing, which will be done according to ~~formula~~ numbers.

The factories will file the filling slips (B1, B2, etc.) in a "holding file" until the return of the ~~filling~~ slips, when the filling slips will be filed in "slip number" order and kept for one year.

9. At the time of figuring and entering the costs the General Accounting Dept. will report all changes of consequence to the General Superintendent.

10. At the close of each month the General Accounting Dept. will make the A4 and A4v Output Reports from the A22 and B16b output cards, checking the quantities against the No. 21 Daily Works Output book; the G9 Value report, checking the values against the Aid Analysis of Formulas sheets, the G8 13 Units of Output report; and will forward copies to the General Supt., Local Factory Supts. and General Managers, as required. The General Accounting Dept. will also make out such special reports for the General Supt. as may be found of value.

11. The Tin Can costs ^{at Cleveland} will be handled in the same general way.

Yours very truly,

Copies to Messrs.

Auditor,

H.H.C.

S.P.J.

J.C.B. & H.J.D.

E.W. Lutes

M. L. Lutes

W.J. Lawson

A.E. Oldham

H. H. Haines

F.F. Taylor

H. W. Whittley

C.C. Ballentyne

J.D. Barker

} For Information Only.

Cleveland Factory - March 1, 1905.

	month.	Yr. to Date
General Supervisions Incl 1 ms. Suptel.	1106.47	4284.25
Laboratory	17.70	308.25
Experimental	29137	1172.49
Testing	---	169403
Superintendence 5 mos. \$42500		<u>212500</u>
6 mos. =		<u>69584.02</u>
1 mo. =		1597.34
To be divided on basis of Nov Prod	Deduct	<u>245.69</u>
Services of Dept		<u>1351.65</u>
	Nov Prod	%
A Dept	234.24	13.6
B Dept	246.71	14.3
C Dept	336.84	19.5
D Dept	204.15	11.8
X Dept	---	---
Oil & Gas Mfg.	216.28	12.5
Waste Mfg.	364.06	21.5
Waste Filling	<u>116.46</u>	<u>6.8</u>
	1723.74	100.
Fin. & Rm.	219.29	10% of 10682 = 1068.2
Finishing	430.13	10% " " = 1068.2
Power	<u>7500</u>	3% " " = 320.5
	<u>724.42</u>	<u>245.69</u>
	2448.16	

Distribution of Office & General Expenses.

A 1	Factory Office Services	606.66	5357.18
D	Cleaning Office	27.00	2.00
1st	Office Expense	8.00	730.98
2d	Insurance	—	36.17
2d	Taxes	—	450.00
2d	Gas	2.00	61.68
2d	Sundries	—	154.10
3d	Returned Goods	30.31	296.44
4th	Maintenance	71.42	787.10
	Light & Heat	20.26	75.55
	Insurance Expense	301.85	1887.72
	Less 5 Mos. Superintendence	1147.56	13630.70
			2125.00
			11505.50
			1917.62
A Dept	10%	1150.57	191.76
B "	10%	1150.57	191.76
C "	12%	1438.21	239.70
D "	12%	1438.21	239.70
X "	—	0.00	—
Var Mfg	12%	1438.21	239.70
" Feltg.	10%	1150.57	191.76
Oil & Gas	10%	1150.57	191.76
Fin. Exp.	12%	1438.21	239.70
Finishing	10%	1150.57	191.76
	100%	11505.65	1917.60

1917

Additional to Base Material Costs.

	Month	year to date
Purchasing Dept Charge	288.82	1178.27
Receiving & Store Service & Expenses	<u>654.21</u>	<u>3902.31</u>
	943.03	5080.58
Value of Purchases	117,890.58	538,127.44
or a charge of 1% on Value of all purchases.		

A. Department

Feb'y	Productive	A Mining	1 1 7 1 1	
		A Grinding	2 0 1 5 4	3 1 8 7 0
	Non Productive	Mining	1 9.8 9	
		Grinding	5 7.0 7	
	General	Mining	.20	
		Grinding	<u>3.0 8</u>	
	Monthly Roll		7 9.2 1	
			1 5 5.0 0	
	Office & General	10%	1 9 1.7 6	
	General Supervision		<u>1 8 3.8 2</u>	
		141.3%	6 0 9.8 2	
	∴ 200% of 318.70 =			6 3 7 4 0

Grinding Cost	mo.	Yr. to Date.
Power	3 8 6 1 0	2 6 3 3 . 0
Expenses 11 1/2%	6 3 5 4	5 3 0 . 0 7
Rough & Smooth	<u>1 7 1 0</u>	<u>8 2 6 8</u>
	4 6 6 7 4	3 2 4 5.8 5

Mill Hours:	factor	mo.	updated.	
Roller	7 1/2 HP x	50	= 3 7 5 . 5	7 1/2 x 0.608 = 4.62 per hour
21"	2 1/2 x	61	= 1 5 2 . 5	2 1/2 x 0.608 = 1.52 " "
30"	4 1/2 x	16.81	= 7 1 4 . 4	4 1/2 x 0.608 = 2.74 " "
			7 6 7 . 5	0.608 per unit prodn.

Package Cost

Soldering Service	41.66 - 215.80	Distributed on piece prices
Expenses 4% (12)	14.92 - 335.16	or 55.90 per month

	Expenses	Services
41400 Cans x 1. = 41400	= 12¢ per C.	+ 7 1/2¢ = .19 1/2 C.
3495 Cans x 1 1/2 = 5242.50	= 18¢ " "	+ 12¢ = .30¢ C.
46600 Units @ 55¢	= 12¢ per C.	

B Department

Feb'y.	Productive	Filling	13450	
		Grinding	<u>22363</u>	35813
	Non-Productive	Grinding	20.09	
		Filling	28.37	
	General	Grinding	<u>13.25</u>	6171
	Monthly, Roll.		18500	
	Office & General Expenses	10%	19176	
	General Supervision		<u>19329</u>	
			631.76	
	200% of 35813	176+0% =		71626

Grinding Cost	Month	Year to Date
Power Heat & Lights	476.26	2855.88
Expense 11%	<u>52.49</u>	<u>521.75</u>
	573.95	3400.63

Mill Hand	Month	Year to Date
(30) Cash per hour	2276	11083
	<u>256</u>	<u>244</u>

Package Cost			
Soldering & Closing		95.50	492.29
Expense 12%	Expenses 24.70 Solder 38.56	<u>63.26</u>	<u>356.23</u>
		158.76	848.52
No. Packages - Cans	63860 X 1 = 63.860	- 11¢ per C. - 1/4 hr. 1/2 hr. pk & gr.	
5¢ Pails	11629 X 2 = 83.258	- 22¢ " C. - 1/2 - 1 - 5¢ each	
	147.118	- 11¢ " C.	

Further Proof -

105,000 Cans closed for	95¢ Service on	9 1/2¢ per C.
" " " "	24.70 Expenses	24¢ " C.
11,629 " " "	38.56 Solder	<u>92¢ " C.</u>
	Pails =	20 1/2¢ " C.
	Cans =	11 1/4¢ " C.

C. Department.

Febry.	Productive			401.19
	Non Productive	120 94		
	General,	<u>111.40</u>	232.84	
	Monthly Roll.		104.00	
	Office & General, 12%		234.70	
	General Supervision		<u>211.53</u>	
	191 of =		788.07	
	200 of =			<u>802.39</u>
				1203.57

Grinding Cost,	month	6 months
Powers height & Heat	315.81	1773.90
Expenses 114%	<u>125.24</u>	<u>726.07</u>
	441.05	2499.97

mill hours.	Month	
21" - 2 1/2" x	2396	= 5490 = 184 per hour.
16" - 1 1/2" x	156	= 251 = 12 " "
		6241 = 0706 per unit per hour

Packages Cost.		
Soldering services	2680	207.66
Expenses 12%	<u>6345</u>	<u>336.66</u>
	9077	54432

* To correspond
with A Dept. Soldering
Price. per.

No. Packages	4152	Cans X P.C. X 1 =	4152
	1885	Pails X 1 1/2 =	* 2828
			12280 = 74 per C. units.

The output for the month was not up to the average of last year
so we estimate the average output to be 10000 Cans X 4 = 10.000 = 66¢ @.
2500 Pails X 1 1/2 = 3.750 = 1.00 P.
13.750 = 66¢ per C. units.

1 stick of solder will solder 35 to 45 Pails or
55 to 65 Cans = ratio of 1 to 1 1/2 as above.

D. Department,

Febry.	Productives		594.24
	Now Productives.	75.55	
	General	<u>18.60</u>	94.15
	Monthly Roll.		110.00
	Offices & General	12.5%	239.70
	General Supervision		<u>311.54</u>
		110%	655.39
		125%	
			<u>714.09</u>
			1308.33

	Month	6 Months
Grinding Cost	313.65	2071.77
Power Right & Heat	<u>114.33</u>	<u>592.42</u>
Expenses 11%	427.98	2664.19

Mill Hours - 30" D. - 6 1/2 HP x 527 = 3425 = 214 per hour
 21" D. - 3 3/4 HP x 2639 = 9856 = 124 " "
 13321 = 032 per unit per hour.

Packages Cost	121.01	78389
Soldering Service	<u>18.40</u>	<u>272.70</u>
Expenses 12%	139.41	<u>91056.54</u>
		176.10

No. Packages. 1100 } 4 units } x 1 = 68840 = 192 @.
 67740 } - units }
 11560 Pails 12 = 23120 = 382 @.
 41960 = 192 @ Units.

Experimental Department,

Feb'y.	Productives			89.29
	Non Productives	29.29.		
	General	3.85	33.14	
	Monthly Roll.		137.23	
	Office & General	} this account being in the nature of Genl. supervision it is not charged with Gen. Super. & Office & Genl. 190% 200% of 89.29.		
	Gen. Supervision			
			170.37	178.58

Grinding Cost				
Power			18.94	45.16
Expenses	6 mos	4326.26	1.17	326.26
Mult. Hours	mo. 30 1/2	6 mos 260 1/2	30.11	421.42
			85"	1.62

Establish rate of \$1.50 per hour

Oil and Gapan mfg.

Feb'y.	Productives			173.51
	Non Productives	102.07		
	General	64.21		
		166.28	for delivery	56.57
	Monthly Roll.			50.00
	Office & General 10%		191.76	
	General Supervision		168.96	
	Expenses 184k - mo - 44 3/4	6 mos	82.11	
		142.67		
	Power, Light & Heat	5.00	67.12	
			616.52	
	350% of 173.51			607.28

Varnish mfg.

Feb'y.	Productive	Mr George	472.12	
		" Bradley	<u>82.17</u>	560.29
	Now Productive	George	31.79	
		Bradley.	1230	
	General	"	664	50.73
	Monthly		318.33	
	Office & General	12 1/2%	239.70	
	General Superintendence viz		290.60	
	Expenses	182.06	521.02	402.84
	Power, freight & Heat		<u>33.42</u>	
			1335.62	
	Deduct from Exp for coke charged direct to Res		<u>- 96.40</u>	
			1239.22	

Varnish Filling.

Feb'y.	Productives		176.49
	Non Productives	46.71	
	General	21.75	71.46
	Monthly Roll		45.00
	Office & General	10%	191.76
	General Supervision	6.5%	91.91
	Expense		<u>27.15</u>
			427.28

Varnish Felling. - Cash of Knighting & Heating R. Bldg.
O. & Y. " " " F. "
Var. Storage " " " Sal "

**INSTRUCTIONS REGARDING THE HANDLING OF TIME CARDS
AND CHARGING OF TIME TO R's.**

- 1 The workmen, after entering their time on the backs of the time cards against the R's on which they have worked, will turn them in to the Timekeeper at night, and they should then be arranged so that the foreman can go over and approve them the first thing the following morning.

 They should be returned to the office not later than 10:00 A.M., and in case any are delayed beyond that time, the timekeeper should follow them up to see that they come in at once.
- 2 Enter on the face of the time cards, the rate per hour and extend the total wages earned.

 Extend on the back of the cards the value of the time charged to each R and make this balance with the productive time shown on the front of the card. Also extend the non-productive "job order", and "package cost" on the face of the card, so that the total amount charged on the front of the card equals the total amount of the day's wages.
- 3 Check the distribution of time on the back of the card with the grinding slips of the several departments, as it will be found that very often the workmen make errors such as transposition, etc. in reporting the R on which they have worked.
- 4 Enter on the grinding slips B 1 and B 2 the labor charged against each R.
- 5 When the R is completed and the formula slips received in the office, figure the raw material cost.
- 6 Total the labor cost on the slips B 1 or B 2 and charge to the formula slips.
- 7 Add to the labor charged on the formula slips (A 1 or A 2) the percentage to cover non-productive service and expense of the department.
- 8 Charge on the latter slip the grinding cost or mill expense.
- 9 Figure the bulk cost per 100 gallons or 100 pounds, etc.
- 10 Figure the packing cost.
- 11 Figure the total cost.
- 12 Draw off costs onto package cards.
- 13 Enter in Formula Value Book.

DISTRIBUTION OF TIME IN A. B. C. D. AND EXPERIMENTAL DEPTS.

Manufacturing:

All time spent in mixing, grinding or filling is to be specified on the front of the time card by each workman and to be charged on the back of the card to the particular R to which the time was applied. The minimum charge to any R is 1/4 hour.

All time which cannot be distributed to particular R numbers, should be reported on the front of the time card as non-productive or general work.

In specifying the time on the back of the time card, it is not necessary to show the slip number except when work is done on two slip numbers for one R on the same day.

Tube Filling:

Filling and closing of tubes to be charged directly to the R on which the work is applied.

Working Foremen & Sub-Foremen:

Sub-Foremen such as Clarence Prosius and others having charge of a line of mills, should charge 1/4 hour to each run started on a mill and the balance of their time to be distributed in proportion to the total running time of the mills.

All working foremen should use time cards and distribute as much of their time as possible to R's in order that such time can be figured directly into the cost of the output, thus reducing the per cent of Non-Productive time and increasing the Productive.

Cleaning Mills:

Any time spent in cleaning a mixer, mill or filling tank for a particular color, should be charged directly to that R, but general cleaning of mixers and mills should be charged to Non-Productive or general work.

This general cleaning of mixers, mills and tanks is to cover the cleaning of mills and spouts at the close of the day and also the general cleaning up of a mixer, mill or tank after a long period of continuous running.

Hopper Filling:

The hopper filler should charge what time he can direct to R's and the balance should go into Non-Productive or general work.

Coopering:

Time spent in coopering should be charged directly to the R's.

Capping, Trucking, Soldering:

These are not charged directly to the R's but will be charged under the classification of "Handling Packages" which will appear on the time cards printed in future, and at the end of the year will be divided by the number of packages handled to find the net cost per package.

Dressing Mills:

This is to be charged to a job order, which is then charged at the end of the month into the expense account of "grinding sundries". (11 - 2 a/c)

Janitor, Elevators, Cleaning, etc:

This work to be charged to Non-productive or general work.

Returned Goods:

All work done on returned goods is to be charged to the job order covering such work and expense.

Finishing in B Dept:

In this department there is also the finishing of 5 gallon cans and barrels which should be charged directly to the R's on which the filling is done.

Painting of barrels for stock to be charged to the job order covering same.

Filling Paste Paints:

The time of filling paste paints is to be charged as directly as possible to the R's but where this is difficult the distribution should be made on the basis of the number of packages filled on each R.

DISTRIBUTION OF TIME IN VARNISH AND OIL & JAPAN DEPARTMENTS.

Manufacturing -

All time spent in manufacturing Varnishes or Oils and Japans to be specified as Manufacturing and charged on the back of the time card to the particular R on which the time was applied.

Any time which cannot be charged to a particular formula should be charged to "general work" on the front of the time card. This is to include all time of varnish filtering as well.

Sub-foreman - P. Gaffney shall charge as much of his time as possible on a time card to specific R's.

All coke used shall be charged direct to the R on which used.

Storage -

All time spent in filling the storage tanks to be specified as storage and charged directly to the R's on which the work was applied, showing the slip numbers.

All time for cleaning out tanks should be charged to the R number which the tank contained.

Any general work in connection with the storage to be put under the heading of "general work" on the front of the time card.

Blending -

All work of blending is to be reported as such on the time card and to be distributed on the back of the card direct to the "O" number blended. It is not necessary to specify the slip number.

Filling -

All time of filling is to be distributed on the back of the time card direct to the "O" number filled. The slip number is not to be reported except in such cases where the filling may be done from two different tanks in any one day.

All time spent in filling turpentine, raw or boiled oil, should be charged to Job Order for filling varnish for Factory use.

Samples -

All time filling small samples to be charged to "general work" on the front of the time card.

Small Orders -

All time spent on filling small orders to be reported as "filling" on the time card and to be distributed on the back of the card direct to the "O" number.

Each man filling an order should report on the filling slip the time spent in filling. These slips shall then be checked with the time cards in the department office.

Capping & Trucking -

All time spent in stamping cans, capping cans and delivering trucks to the elevator should be charged to this account and it is not necessary to specify the "O" number upon which this work was applied.

Janitor Work and Cleaning up the Work Rooms -

To be charged to "general work" on the front of the card, to go into non-productive

Handling Oils -

To be reported on the front of the time card as such.