

Salesman's
Hand Book

No. 179

Preface.

THIS book is intended for the use of the traveling representatives of The Sherwin-Williams Company.

It contains useful information about our products and the methods employed in pushing the sale of them, also a general outline of our policy.

A careful study of it and frequent reference to it is recommended.

THE SHERWIN-WILLIAMS CO.

Sales Department.

IN offering our products to new customers, bear in mind that they must have confidence in your representations or faith in the goods, or both. *Confidence*

The strongest point in a salesman is the trust and confidence reposed in him by his customers, and this is to be gained only by straight-forward, manly dealings; no exaggerated statements; no crowding or raising of orders; no abuse of trust. With this respect, he will be always welcomed and make constant headway. *Respect*

You will hear rumors, false statements, concerning other manufacturers' doings. Hear all, but believe little. Do not disparage our competitors or their goods; nothing will be gained by abusing them; and never make any misleading statements regarding our goods. Men who have stuck to this rule are the most successful, and have the confidence of ourselves and customers, while the average salesman's statement is looked upon with distrust. *Other makes*

It is the salesman's duty and privilege to satisfy himself that he has grounds for the representations he makes; that his facts are established by past experience in the use of the *Stock in trade*

goods; that the test of time has supplied evidence of such a character as to leave no reasonable room for doubt as to their excellent quality. These, in addition to his natural adaptability, are his only "stock in trade." If the evidence furnished is of an insufficient quality to inspire perfect confidence in his own mind as to the character of his goods, he cannot succeed, the attempt can terminate only in failure.

Value

Your value to the house is estimated by the amount of goods sold through your efforts, both direct and indirect: upon the thoroughness and intelligence with which you do your work, and the profit you make for us.

Profit

A salesman is judged, not solely by the amount he sells, but also by the profit he makes. He must have in view the result of his work both as to present and future profit to his employers. He will naturally secure such orders for present or future shipment as he can, but beyond this, he must work to accomplish the direct transmission of orders to the house, if he is not on hand to receive them. If he is conscientious and satisfies himself, the chances are he will satisfy his employers.

*System
in work*

It goes without saying, that to be successful entails a careful study of the territory you are assigned to, and

the regulating of your trips, so that your calls will not be too frequent or too far apart. Lay out your route carefully in advance and do not be easily diverted from your plans or neglect any points where you have intended to call without strong reasons for doing so. There is no certainty of business anywhere, and the best orders often come from where we least expect them.

Never omit a town simply because you hear there is no trade there. Your special ability to find trade where others overlook it will be an important condition of your success.

Your expenditure of money should be carefully made, and in entertaining not reckless nor lavish, as trade secured in that manner is soon lost.

Perseverance

Thoroughness, in seeking out every possible buyer, must be coupled with perseverance and patience. But perseverance must not be confounded with persistence, and care and judgment should be exercised not to become a bore. Controversial argument is not conducive to the preservation of those friendly relations which should exist between the salesman and his customers.

In your intercourse with your customer (or he whom you desire to make such) we would suggest some points

Tact

as having a special bearing, in the accomplishment of your purpose: First, the creation in the mind of your customer of a favorable impression toward you. This can only be accomplished by your method and tact. The manner of introducing yourself and your perception of his response are important. Don't force yourself on a man where the circumstances indicate unfavorable conditions. Bad impressions are apt to stick.

Second, avoid the appearance of unduly urging him against his inclination; impress him with the fact that "he knows his own business best," but do not lose sight of an opportunity to lead while seeming to follow.

Third, cultivate a "social side." Secure his confidence and don't abuse it. Make him your friend. Avoid misunderstandings and don't "saddle" him with a greater load than he can carry—conveniently and good naturedly.

Fourth, when you have caught your fish, land him. The way to get business is to go after it. The way to go after it is to get it. Promises are uncertainties, orders in hand are sure.

Complaints

The manner in which you meet complaints is important. Realizing that, with rare exceptions, complaints are founded upon causes outside of quality, you should seek the closest investi-

gation; endeavoring to demonstrate the true cause of the trouble by facts, rather than by positive statements unsupported, that the fault is in the application or in the circumstances. But you should not confess judgment by admitting faults of quality.

On no account whatever will we exchange our paints and colors for other makers' goods.

While it is impossible to speak of the many ways in which a salesman may strengthen himself (for the majority of them come by inspiration of the occasion), we may enumerate the general characteristics as:

In a nutshell

Good appearance and good address.
Confidence in manner, but not "cheek."

A high aim.
Thoroughness in work.
Perseverance coupled with patience.
Social qualities that command friendship.

Self-respect.
Square and truthful dealings.
A broad and thorough, rather than a narrow, personal and selfish interest in his work.

Whilst the weak points to be avoided may be cited as:

Untidiness.
Timidity of assurance.
Display of annoyance or temper.

Confession of lack of faith in goods when complained of.

Disparagement of the goods of other manufacturers.

Confidential relations of too close a nature with employees.

Too much haste to get to the next town on the trip slip.

Loss of heart or courage because of temporary failure.

Hard work

The labors of a salesman are by no means of the lightest order. You must be prepared to do hard work if you would succeed. It has its happy side, and the salesman never feels so good as when he has secured a big order; your inclination should not be to brood over the loss of an order, but rather an inward reservation that you will secure the next. It would be too much to expect, and contrary to the "eternal fitness of things," that every man you approach should fully comprehend the unequalled merits of your goods, or see the manifold advantages in using them; but when he does understand and is disposed to believe in their excellence, you have secured the strongest hold on him.

Travel straight in every way, a good house is back of you, and you have good goods to sell.

This Company is interested in your welfare.

Credit Department.

The Credit Department in all divisions consists of three persons, the manager, the cashier, and the salesman.

Two of these are expected to agree in the passing of all orders. No one is responsible for what he does not approve and no order is turned down without the agreement of two of the three in reference to it.

The cashier and salesman are expected to be most thoroughly posted as to the financial responsibility of the customer.

The salesman, first of all, for the knowledge of conditions that can be discovered while he is on the field, such as the customer's general reputation. Methods of paying personal bills, character, habits, speculation, fast living, extravagance, inattention to business, outside ventures—all points of value as to any of these matters are to be reported to the house whether pertaining to new customers or old. Also:—

1. Careful and thorough reports to be made of all new customers rated less than "W. D." Bradstreet or "H. 3½" Dun.
2. Write name of customer cor-

rectly and plainly and send, if possible, a letter head or bill head, or business card for greater certainty. Report also promptly all changes that occur.

3. Be very specific with terms. Usual are 60 days in the States, four months in Canada. All other are unusual and special reasons for granting the same must be given.

4. If special terms are made on any one bill, specify them particularly. Invoice will be so stamped and they will apply to no other.

5. Make as inducement short time and liberal discount for cash rather than long time.

6. On regular terms 60 days in the States the discount for cash is 2 per cent in 15 days and in Canada four months and 3 per cent in 30 days.

7. Usual terms are f. o. b. cities from which we make shipment. Avoid misunderstanding regarding delivery or freight equalization. Freight is never allowed on shipments where gross weight is less than 100 pounds.

8. Salesman are not expected to make collections from customers, but when they insist on paying, accept and remit at once to the house.

9. Request for "no draft to be made" does not mean extension of time.

10. When accounts are due and

unpaid, after we send notice we always are at liberty to make draft.

11. We are always governed strictly by the terms of sale stamped on invoice.

12. We send statements and notices in advance of all drafts.

13. We never fail to grant reasonable extension, if request for same is made before or at maturity of account.

14. When customers claim we have not favored them in requests for time, ask for and insist on seeing our bills and letters and when the account was due.

15. We never grant extension, at its face, of a note or acceptance unpaid at maturity. A part, at least, must be paid to show good faith.

16. Our goods, not ordinarily being the main stock of any buyer, we do not grant long extension of time.

17. Take nothing for granted as to the standing of any customer. Watch closely, whether he rises or falls, from time to time, in commercial rating.

18. Sell no concern that you would not personally trust with a like amount of money had you it to loan yourself.

19. Look carefully to any "old accounts" in your hands for collection, and report any items of interest to the office at once.

20. Make sure that the party to whom you sell is fully insured against fire. Don't take orders from any one not insured, unless you report the fact at the time of sending in the order.

21. Advise office a few days in advance to forward check for traveling expenses. Don't draw drafts on the house.

22. Sell only the best men. Slow and doubtful accounts should be avoided.

23. Keep the office advised of all matters affecting your territory.

24. Do not promise renewals of notes or extend time of payment of accounts. Refer all such requests to the office.

Advertising.

TO be a thorough salesman is to be a good advertiser. To be a good advertiser is to believe in advertising from the ground up.

The subject of advertising is many sided and he who is to succeed must see the subject broadly.

We cannot adopt everything in the advertising line that is good, we must select those features best suited to our purpose, must specialize, and then see to it that what is selected is put to the best use. Advertising to be most effective must reach the spot for which it is intended, and when it does, at that moment it begins to increase business, and it is to your interest to so interest yourself in all the various features, to see to it that what is sent to your customer is in the first place suited to his demands, and secondly that it *is used* as it should be.

Some customers are natural advertisers and succeed in it. Most of them have had little experience and don't believe in it. You must be so thoroughly alive to the advantages that you can enthuse and arouse them, for in their success lies in a great measure your own success.

You must have as much confidence

*Selecting
the best*

*The dealer
as our
advertiser*

in the advertising as you have in the goods. Other things being equal, the best advertised paint sells quickest. Study every feature of advertising offered, each has its peculiar uses; become familiar with all methods for proper display and give to each customer the kind that fits his peculiar locality, the kind you feel sure he will use.

Any advertisement to be worth the ink it is printed with, must be seen; a thousand color cards tucked away in a drawer or under the counter are not worth five where they can be seen, and one clean card is worth a dozen soiled.

The special features demanding your closest attention, are:

The short C's of 18 and 28 colors are to be used only as entering wedges when the full line of or colors can not be placed.

Experience has shown that careful use of these features has led up to placing the longer line. Our constant aim is to place the entire list of colors. These cards help to do it.

Counter display cards framed under glass, are to be furnished only when agent has a good place to display them.

The "E," the most effective paint seller ever used by any paint manu-

C-1
C-2

CC
CC-1
CC-2

The "E"

facturer, sent direct by mail to consumers upon lists of names furnished by your customers. A salesman's helper in a hundred places at once.

The necessity for carefully selected lists of *probable users* of paint is apparent, and dealers cannot be too firmly impressed with this fact. Every "E" sent to a proper name, helps to make a larger order waiting for you next trip.

Sample colors in case. Especially appreciated by painters, architects, builders and contractors. A few sets carried with you, to give to these men as you call upon them, is good advertising. To be supplied to painters using S. W. P. not those desiring to use them in matching up other colors. G

Painters business cards. Never promise to furnish them to painters who have not used S. W. P., for no painter will advertise a paint that he has not tried. GG

These cards are sent through the agent unless otherwise specified by you and are as a compliment from him to the painter and should be carefully used.

Floor finish display card framed under glass supplied only when dealers carry at least two of the lines. FF

MM-3

Enameled Iron agency sign, one usually furnished to each agent, but if there is a side entrance with good display, give one for each place, if you are sure he will put them up.

*Paper
Posters*

Posters, with dealer's name printed. The quantity of Posters to be supplied depends largely on the agent, the number he will guarantee to put up, also the size of the town, and should not be offered freely. These are the hardest features to have properly used. "If he can't use, don't send," let that ring in your ears every time you consider these items.

XY

A book of newspaper electrotypes which we furnish agents free. A large number of merchants, particularly in small towns, contract for advertising space in their local papers just to support the paper.

As a rule these men will be glad to use the ready-made advertisements as they save them the bother of writing ads. Good live advertisers appreciate them as well, and it a good stroke of business on your part to have these used by your customers, as they help to sell goods for you. This line of advertising is well worth your special attention.

Varnish

The Promoting Department will take charge of the space of agent and supply a score of written ads to cover

any specific lines the dealer may desire. This will in the majority of cases give us a better representation than we would otherwise get.

Display cards are all good but should not be sent to dealers not handling the line. The general displays V D XY and V C do not advertise any one varnish and can be used where a fair stock of varnish is carried. V E "Excello" and V K "Kopal" should not be sent except where dealer is handling these grades.

A book containing illustrations of attractive window displays. As the store window is the very best advertising space to be had anywhere you can see that it is good business to get your customer interested in using our W. D. Where there are a number of clerks there is generally one who attends to the window dressing. Get him interested. It will pay you to dress a window whenever you can get permission. All that is needed is a start, they will see that it brings business and will keep it up.

The window displays shown in this book are new for this year. It being understood that old agents have been using the regular W. D. during the past year. This book supplements the work of the old one.

*WD for
new agents
only*

*W.D.-1
For old
agents only*

WE

Care should be taken not to send these window cards unless the agent asks for them. If he is not thoroughly interested he will not use them.

CP

Urge the agent to see these order blanks. It helps him and is a great aid to the office in filling orders.

AA-3

The Muselene poster is made of too heavy paper to be satisfactory where paste is used. It is intended to be tacked up where bill posters are not available and is not intended to be supplied in quantities. The AA paper poster is suited for bill posting work and should be supplied in preference to the AA 2 for such work.

DB

Dealer Reference Book for new agents. Old agents should bring their books up to date by putting in new clean color cards. A new book should not be supplied unless the old one is badly soiled or damaged.

*AA
AA-6*

8 and 24 sheet posters, are intended for large towns and cities, and can only be used to advantage in a limited number of places. Cannot be put up satisfactorily by an amateur.

AA-7

Wooden Field Sign 6 x 3 ft. should not be used as a store sign as it is not made for that purpose.

When placed in a field it should be mounted on two posts 2 x 4 in. and raised high enough from the ground to stand above grass or crops

when grown to their full height. Face the sign away from the hot noon and afternoon sun whenever possible, this will prolong its usefulness.

Cloth Banner to be used by painters. A good plan is to have the banner mounted on a board back ground or stretcher and then carry it from house to house wherever the work is being done. Do not advise tacking the banner to the building as it can not be removed without tearing.

MM-1

Space is left at the bottom where the painter can letter on his name and that of the agent selling the paints if desired.

A complete set of advertising features is furnished neatly packed in a leather grip, in convenient form for reference.

Equipment

Keep your advertising matter clean, attractive and up-to-date, this will impress your customers and encourage him to do the same.

Mussed or soiled samples always leave a bad impression.

Packed in leather case is a nest of cans, assorted sizes, properly labeled. These are most useful in comparing sizes of competitor's cans, and will be a most forceful argument against lower price goods by other houses and shows the exact appearance of the goods as they will reach the customer.

*Nest of
Cans*

*Making out
Advertising
Orders*

Use as much care in making out your advertising order as you would an order for goods. If for a new customer, study the situation, the dealer himself, his space for displaying the advertising cards, etc., and then order only what is necessary.

If for an old customer, look over his stock on hand, see what cards he has and do not duplicate stock. Do not guess at what he needs, know it. Make out the order on the spot, do not trust your memory till you get to the hotel. "If he can't use it, don't send."

*Varnish
Roll*

A leather roll containing sample bottles of varnish. A convenient reference when talking different varnishes.

Kopal Case

Small leather case containing a piece of Kauri gum and 3 bottles one each of Refined Oil, Turpentine, and Kopal, make a convincing argument in themselves. This is our specialty. Push it; the goods will back you up.

*Excello
Case*

Small leather case containing two Panels, demonstrating the fine polishing qualities of Excello.

*Enameloid
Case*

Leather case containing small samples of Enameloid on wood.

Oil Case

Shows one bottle each of raw and refined Linseed Oil.

Points on S. W. P.

NO argument should be necessary *Painting a necessity* in this age of progress to convince people of sound mind and discretion that in the use of paints (especially on exteriors of structures) while the gratification of the eye is by no means of slight importance, the chief value is in the economy, by the protection of structures from effects of exposure. Accepting this fact, that painting is a *necessity*, it naturally follows that the best paint to use is that which best accomplishes the object sought.

The best paint that is made today is Prepared Paint.

Now what are the chief elements of that paint which best serves the purpose suggested? In mentioning some of the articles most used or best adapted for this purpose we shall begin with the liquids.

Notwithstanding the tireless efforts of interested people in all time past, there has not yet been discovered a liquid which combines in itself the proper elements for producing a paint film equal to the oil expressed from flax seed, commonly called linseed oil. There are others which have been found to serve the purpose imper-

Linseed Oil

fectly, but none have proved of practical value. In the constant desire for something cheaper, unscrupulous parties have used various other substances, in whole or in part, as a substitute for linseed oil. Some of them have seemed at first to serve the purpose, but none have proved equal to the article they are imitating, and only result in reducing the actual value of the paint; therefore we must accept linseed oil as the chief vehicle for carrying the "coloring matter" (dry pigment) of the paint, and the only other liquids which should be used in connection with this are such as assist in the proper spreading, drying and hardening, to insure constant consistency, or to adapt a surface especially for subsequent special coats of paint or varnish, and *none of the added liquids should be used in proportions larger or smaller than are required to cause in some manner the complete mixture best to fulfill the purpose for which it is intended.*

Pigments

Now as to the "coloring matter," which we shall from custom term the *pigments*, meaning the dry material before uniting to the liquids. Their purpose is to give body or consistency and color to the prepared paint, and it is very important that as far as possible those pigments should be used

which remain on the surface to which the paint is applied as long as possible, unharmed by exposure. Some of the principal pigments used are carbonate of lead, oxide of zinc, oxides of iron (yellow ochre, Venetian Red, umbers, etc.), and several others, of both natural and artificial production. The characteristics of these articles are very imperfectly understood by the public. Unfortunately, works on these subjects have not been published in any great numbers, nor have they been introduced in any of our ordinary schools, and the indiscriminate use of paint pigment has been governed by the mercantile class only. So it is no wonder that the subject of paint in the scientific and chemical relations of its elements are so little known by the public generally. But times are changing, progress is being made in all directions. Quite a revolution has taken place in the last generation in the knowledge and use of the material we are discussing.

Many improvements have been made and are being made in paints. The color of a desired paint being decided upon, to select such materials as are best suited to the ultimate ends and the use of them in such proportions one to the other as also secures the desired results, is where the manufact-

Improvements

urer or manipulator finds employment for his best skill. The all important element, linseed oil, which has already been quite fully explained, being accepted as the life-giving element of the paint, *the object should be to unite with the oil such pigments in such proportions as will best withstand the influence brought to bear upon the painted surface, and prevent it from disintegrating and perishing, as every one knows it will, sooner or later.*

On a surface in the best possible condition it is desired and expected that the pigments and vehicles will remain united so as to wear out together. Now as most single pigments are, from their natural qualities, not best suited to all requirements, practical experience, backed up by scientific and chemical knowledge comes into play in choosing and uniting such pigments as will serve the purpose best. Nearly all the best known pigments have their advantages and disadvantages. Take, for instance, the well known article, white lead. It has this advantage over others of great opacity or covering power, but then it has a disadvantage in that it requires more of it to cover a given surface than it does of some other white pigments, and if used uncolored darkens rapidly. Another great disadvantage is that when used

White Lead

alone on wood or any similar surface, after the linseed oil has lost its elasticity (which might be termed complete drying), it leaves the lead in the form of a dry powder, the nature of the particles of which are repellant, these having nothing to hold them together and to the surface, the pigment is easily rubbed off by storms or otherwise. A common illustration of this fact is frequent exteriors of buildings that have been covered with pure white lead paint, when say from a few months to two or three years one may, by rubbing the hand over the surface, find the white powdery lead coming off like flour. Almost countless instances of this have come to our notice where the house owner who had believed that pure white lead was the best paint to use and so had taken pains to have it applied, seeing the result, in his ignorance of the real nature of the article has been ready to blame the manufacturer or the painter, believing the paint was not what was represented.

Now we may speak of the merits and demerits of another white pigment, namely, oxide of zinc. This in its nature is quite the opposite of lead in the matter of its particles, they having an affinity for each other, joining together and forming, as it were, an al-

Zinc

0007-SWP-000002543

most impervious film, so that even after the oil has dried out, if the surface was in good condition the film still remains. Another advantage of this pigment is, in consequence of the shape of its particles, a given quantity will spread over a far greater surface than other white pigments. Now what are the disadvantages of zinc? The only one of importance is not a fault when the surface on which the paint is used is in proper condition, but when applied to porous surfaces after the oil has become completely dry, heat and cold acting differently on the outside surface and in the structure back of the film of paint something must give way, and naturally the film of paint cracks and peels off in pieces instead of powder, as in the case of lead. The reader should not conclude from this that all instances of paint peeling off result from the use of zinc. Far from it. There are other causes. Comparing the two pigments as above, we have fairly illustrated the characteristics of other pigments, and yet there are others that have certain merits over either the above, but possessing other faults, or being of undesirable color. to derive benefit from them they must be used within certain limits, so that the final result will be a positive advantage. To go on further with il-

illustrations of pigment would carry us into a great variety of color pigments beyond the scope of this article, inasmuch as when certain colors are demanded they must be used, because to change their character would change the color. After the above quite lengthy explanation of cause and effect in the component parts of paint, *it must be obvious that we have not over-rated the necessary intelligence required to take these materials and from the knowledge of results in their use, put them together in such proportions and in such a manner that the results in the durability and beauty of the painted surface will be all that is possible for human power to accomplish.*

There are many reasons why paints prepared by machinery are better than paints prepared by hand. *Machinery vs. hand made*

Remember in paint making, as in every other line of business, the world has progressed, and is progressing. Things have changed; they have advanced; they have improved.

People not so long ago, used to grind their own corn, spin their own yarn. They used to burn candles and travel by stage coach. They don't now. *Candles*

When a woman spun her own yarn, and ground her own corn, she felt she could do this work better than it could

be done for her by machinery. She had been doing it so long and had become so accustomed to it, she could not all at once, trust it to anybody else.

Painters

It's the same with paint. Painters have been so long mixing their own paint, in their own way, it's hard for them to believe it can be done as well in any other way.

Progress

Habit is strong. But improvements always make their way. It's the world's habit to progress—it's the survival of the fittest all the time.

Paints prepared by machinery are an improvement over paints prepared by hand, and they will make their way—just as sure as the sun rises and sets.

The Sherwin-Williams Paint, prepared, is a better paint than any man can prepare by hand.

Why best

It will cover more surface, it will wear longer, it will look better, and is more economical than any paint prepared by hand.

Spreading

It will cover more surface, because it's more thoroughly mixed and more finely ground than paint prepared by hand.

Linseed oil being the life of any paint, we claim as S. W. P. contains a certain proportion of Zinc White, it will take more oil when grinding than a straight lead paint, therefore S. W.

P. has the advantage of having more oil incorporated in it than lead and oil would have.

We use a concentrated dryer, which displaces the least amount of linseed oil; therefore its great advantage over cheap dryers generally used in the manufacture of mixed paint.

It will look better, because the color is clearer, and cleaner, and has a better, more lasting gloss than paint mixed by hand. *Looks*

It is more economical, because a gallon of it will spread further than a gallon of paint prepared by hand, and it will last longer. *Economy*

Suitable pigments united in correct proportions, combined with proper liquids, manipulated in the right way, result in the production of a paint which is beyond question superior to any other, and best accomplishes the desired results.

There are other reasons in addition to the advantage of using machinery, why we are able to make a better paint than can be made by hand in a small way.

In the purchase of the material to make the paint, where painters buy by the pound, we buy by the ton, and tens of tons. Small quantities cannot be purchased so favorably as large quantities. *Large purchases*

The painter, buying in small lots cannot afford to provide himself with the apparatus necessary to test his materials, even if he possessed the knowledge and time to do it.

Testing

On the other hand, buying in large quantities, we are forced, in order to protect ourselves, to test everything we buy.

We test everything that enters into our paint, in the most critical and practical manner. Consequently we *know* to a certainty that everything our paint is made of is right. The small buyer, without our facilities, must take chances.

No risk

In buying paint, it is well to buy a finished article, and take but one chance. With paint mixed by hand a chance is taken on each of the several different articles of which it is made.

The lead may not be pure.* The oil may be adulterated, or the turpentine "fixed."

Any one of these articles not being right will spoil all the rest. How are buyers going to tell? They can't—until the damage is done.

Guarantee

There's ten times less risk in buying a prepared paint with a name and guarantee like The Sherwin-Williams Co. on every package, than in buying three or four different materials, that

are furnished in several qualities, to make paint of by hand.

These are advantages enough to secure a preference for prepared paints when recognized, and properly understood. But there are still *further* advantages.

It's not enough to know the *kind* of material to use, and that such material is pure. *Material*

We must know best *how* to use them.

Paint making—*right* paint making, is a life's study. Something *more* than materials is necessary to make good paint—skill and brains must be mixed in with the materials. *Skill*

The men who make The Sherwin-Williams Paints do nothing else from one year to another. They are at it all the time. It's practice—constant practice, that makes perfect. *Practice*

It's not reasonable to think that a man who mixes paint occasionally, and has many other duties to perform, can do it as well as men who are at it all the time, and have nothing else to do: to say nothing of the difference in appliances used.

Every package is full measure, filled by weight and not by guess work. *Measure*

It's the manufacturer's business to *make* the paint—not *half* make it, and *Our part and the painter's*

it's the painter's business to *use* it—not make it.

That's reasonable surely.

The best results are obtained when both do their part well.

Results

It would be just as reasonable, when you come to think of it, for paint makers to go into the business of putting on their own paint, as it is for painters to go into the business of *making* their own paint. One stands as good a chance of getting the best results as the other.

The painter mixes his own paint, because he thinks he can do it better, and can't trust the paint maker. Why should not the paint maker put on his own paint because he thinks he can do it better, and can't trust the painter? One's just as reasonable as the other. It's only habit and prejudice that makes the difference.

Brushes

Painters wouldn't think of buying the hair, string and wood to make their own brushes out of. Perhaps this used to be done before there were brush makers; but not now.

Cheapest

We know we cannot expect the support of practical painters, unless we give them a paint equal to, and better than they can obtain in any other way. We know *what* makes a good paint. We know *how* to make a good paint. We know too, that the best paint that

can be made is the cheapest paint, and the only paint on which a great reputation can be built.

Knowing this to be the case, and being in business to *stay*, it would be the poorest kind of business judgment—abject folly, for us to try to convince anyone that we had something we did *not have*. *In business to stay*

Many painters think it's against their interests to use, or encourage the use of prepared paints. It's not so. That's an old fallacy—a delusion. Every sensible paint maker knows, half the success of his paint depends upon its being properly used. He also knows that paint can't be properly used by an amateur, that painting is a trade and business, that has to be learned, just the same as paint making. *Proper use*

The Sherwin-Williams Co. advise, and strongly recommend every user of their paint to have it applied by practical painters. *Painter's support*

We do not hesitate to say that by our liberal, aggressive methods of pushing the sale of our paint, and from its good quality, we are a means of largely increasing the use of paint. This makes more work for painters. And we are *entitled* to the honest support of every painter.

The Sherwin-Williams Paint is as good as can be made. It's better than *Composition*

can be made by hand. It's a pure lead, zinc, and linseed oil paint. It's the result of thirty years' experience, and the closest kind of observation and study.

Another fact remains to be stated. All that has been previously described as constituting perfection of quality is found in The Sherwin-Williams Paint, manufactured by The Sherwin-Williams Company, at their extensive works in Cleveland, Chicago, Newark, and Montreal, and distributed to their thousands of agencies throughout the United States and Canada, from their warehouses in Cleveland, Chicago, Newark, New York, Boston, Montreal, Toronto, San Francisco, Kansas City, Los Angeles, Minneapolis, and Winnipeg. This Company has brought to its aid ample capital, talent, energy, and experience. Machinery has been invented, constructed, and put in use which accomplishes better results than any others have ever attained in this direction. In addition to this the best professional experts the world affords are employed in the mechanical, scientific, and practical departments. These natural results have followed: The Sherwin-Williams Paint is accepted as the standard of quality everywhere, and is used by the most intelligent and pro-

gressive painters. Other paint manufacturers make as the leading claim to excellence of their products that they are as good as The Sherwin-Williams Paint. These claims we desire to have verified or refuted by examination or trial. This Company has distanced all competitors, and is naturally assailed by them on every hand. This only results in adding to the richly deserved popularity of our products. Many manufacturers of both white lead and prepared paints thrust before the public guarantees that their article is composed of certain ingredients only, or is equal to this or that. We go as far beyond such expressions as we have gone beyond others in the successful manufacture of a perfect paint, and simply affirm that The Sherwin-Williams Paint *gives* SATISFACTORY RESULTS *in its use beyond and above any other paint.* What more does any one want?

A great many of the prepared paints made, are worthless. Unfortunately, there are more of the poor kind than the good. The good suffer for the poor.

This is equally true of white lead, which has been looked upon in the past, and is still looked upon by many, as the best painting material. All white lead is not good. There's a

*Good
and bad
White Lead*

great difference in brands. Just as in prepared paints, some are worthless and some are good.

There is just as much trouble, just as much dissatisfaction, and just as many poor results from the use of white lead as from other paint material, but it's not generally admitted.

It's strange, but true, painters will make excuses for, and overlook poor results from white lead they mix themselves, when under similar circumstances where prepared paints have been used they will unmercifully condemn them every time.

Prejudice

It's habit—and prejudice, too. More prepared paint will be used when these feelings are changed.

A better knowledge of, and more experience with good prepared paints will bring such a change about.

A few words now in regard to the cost of paint. The world of trade is wild over efforts in all directions to get "something for nothing," or to be more explicit, to get just a little more than their money should honestly pay for. It is needless to say the desire is seldom gratified, and if it is, of course it is at some one's loss. Now a paint made as it should be cannot be sold at a price lower than The Sherwin-Williams Paint is sold and keep both manufacturers and dealers out of

bankruptcy; therefore a buyer should beware of a paint offered for less.

S. W. P. is sold to dealers, generally but one in a town. The one price is never deviated from. *Agents*

It's very important to select the best kind of agent.

Prepared paint is generally sold by hardware men, druggists, painters, and paint stores. Paint stores are only found in the larger towns or cities. Either a paint store or a hardware store is the best for selling prepared paint. Other things being equal we consider a hardware store the better, for they are particularly interested in the building line and more apt to go out to get business than any of the others. The best results cannot be had by making a painter an agent for S. W. P., as one painter is not likely to buy his paint from an opposition painter and allow him a profit, and it would be impossible almost to get an architect to specify our goods, because it would give our agent the inside track and practically shut out the rest and antagonize all the other painters.

The druggist will not make the best agent as his business is somewhat professional and he is not so apt to go out to get business, and as a rule will not feel like sharing part of the expense of

advertising, as they are in the habit of having loads of advertising thrust upon them. Of course there are exceptions, and as you are on the ground we depend on your judgment.

In whatever line he may be, exhaust every effort to get the *best* man—the man who is the most aggressive and progressive. It takes a first-class man to sell a first-class article.

*How to use
S. W. P.*

NEW WORK.

The best results cannot be obtained on new work with *any* paint without a primer and two coats.

TO PRIME.

The priming coat is the most important one.

Cover all knots and sappy places with shellac (gum shellac dissolved in alcohol.) Prime with our Liquid Primer thinned with pure *raw* linseed oil, (equal parts oil and Liquid Primer.) Old, weather-beaten and soft brick surfaces require more oil in the primer than above, which is for new wood or hard brick.

PUTTY.

Putty nail holes and cracks *after* priming.

TIME TO DRY.

The priming coat must be dry.

so it cannot be rubbed off, before putting on first coat of paint.

TO COMPLETE.

Apply two coats of S. W. P., at least, giving time between coats to dry thoroughly, usually not more than three days—depends upon the weather.

OLD WORK.

To prepare the surface: Get off the dust and dirt, dusting with a stiff duster and scraping where necessary with a knife. Good results depend upon the right kind of surface largely. Remove loose paint, sandpaper spots which are too hard and smooth for the first coat of paint to stick. Apply two coats at least of S. W. P., thinning the first by adding at least a half gallon of pure *raw* linseed oil to each gallon of S. W. P. If the surface is hard, turpentine may be substituted for a portion of the raw linseed oil.

INSIDE WORK.

Clean the surface to be painted. Be careful to remove all grease. Rinse off the soap used in cleaning. Room must be well ventilated during drying.

THINNING.

If the paint requires thinning use pure *raw* linseed oil, never use *boiled*. Turpentine is seldom needed, but sometimes a trifle can be used to advantage.

CONDITIONS OF SURFACE TO AVOID.

Paint, any paint, should not be put on unseasoned wood and expected to stay on.

Avoid surface wet with dew, or rain, or a frosted surface.

Avoid surface which though apparently dry, has water behind it which will be drawn out afterwards by the hot sun.

Avoid surface full of resin or pitch.

Avoid surface covered with dust or dirt.

Avoid surface of loose scales of old paint or blisters.

Avoid surface which is too hard.

STIRRING.

After can is cut open pour off the oil. Stir up thoroughly the remaining portion in the can, which is largely the pigment. Gradually pour the oil back, stirring all the while, until all has been replaced and the entire contents is of the same consistency. Use a paddle,

and from time to time when painting stir the paint.

APPLICATION.

Begin at the top, paint a stretch as far as you can reach from side to side and work down about four or five feet. Finish this top stretch clear across to the edge of that side of the job. In this way you can avoid laps.

Brush the paint out as thin as possible, the thinner you can brush it out the better for the appearance and durability of the job.

CARE OF BRUSHES.

When kept over night leave in the paint. If kept for a couple of weeks, wipe dry and put in linseed oil. If kept for longer time, wash clean in turpentine and hang up.

To put a new brush into service, dip for a few minutes in water, whip it out thoroughly, fill with paint.

Best brush for general house-painting (Exterior) is a round bristle brush with coarse, long, elastic bristles.

To ascertain the quantity required for two coats. Measure the distance around the building, multiply that by the average height, which will give the

*Quantity
required*

square feet of siding; divide that by 300, which will give you approximately the number of gallons of S. W. P. to buy for the body, then take 1-8th to 1-5th of this quantity, which will give you the amount for the cornice and other trimmings; ascertain the square feet in floors and ceilings of porches, then divide each, as before, by 300, which will give the quantity to buy.

For an average eight room house about one quart of paint will answer for doors and sash.

Old and weather-beaten and brick surfaces require more paint than others.

More paint is used on a surface in cold weather than in warm, because it is not so pliant and free-working.

*Regarding
guarantee*

Since some of the most worthless paints in the market are guaranteed in the strongest terms, it is humiliating to us to feel obliged in any way to conform to a custom so much abused, and we would not do so were it not that our paint is constantly being introduced to people who have not known the character and standing of this Company, or those who have not known that the excellence of The Sherwin-Williams Paint has been thoroughly established and acknowledged. But to satisfy strangers and doubters,

the following guarantee is used on the labels:

"We guarantee that this Paint, when properly used, will not crack, flake or chalk off, and will cover more surface, work better, wear longer and permanently look better than other paints, including Pure White Lead and Oil.

"We hereby agree to forfeit the value of the Paint and the cost of applying it if in any instance, it is not found as above represented.

THE SHERWIN-WILLIAMS Co."

Now, inasmuch as many consumers of paint do not know, or at least do not realize, what conditions are necessary to insure satisfactory results in the use of any paint, we wish to call especial attention to the words "properly used" in the above guarantee, and mention some of the improper conditions of use, and when we will not guarantee any paint to be satisfactory. We do not guarantee paint to remain satisfactory on wet or unseasoned lumber nor on surfaces too dry or porous, unless such surface has been made fit by proper primary coating; nor when such surfaces are subject to dampness without ventilation on the opposite side. We do not guarantee paint to remain satisfactory over knots or sappy places in lumber, unless such places have been first suitably shel-

laced. We do not guarantee paint to prove satisfactory if each coat is not given sufficient time to harden before the next is applied, nor unless it is rubbed out properly, *i. e.*, unless it is spread on the surface evenly and when of proper consistency. We do not guarantee paint to stand satisfactory if "doped," thinned or mixed with anything which we could not approve of as reliable paint material.

There are other sufficient causes for dissatisfaction in painting, but the preceding are the most commonly encountered, and when existing, no complaint against the quality of the paint will be entertained by us.

*Suggestion
for
architect's
specifica-
tions*

GENERAL CONDITIONS: Furnish all materials and perform all labor for the full completion and proper painting of the building.

The painter must see that all wood work is perfectly clean before filling; cover all knots, sappy and pitchy places of wood work with a good coat of pure shellac (which shall not be less than 5½ lbs. gum shellac to one gallon of alcohol) before priming; putty up all wood work smoothly, after priming, also before applying last coat of paint.

All exterior work to be primed as soon as weather will allow, and all

work done as far as possible in clear, dry (not dusty) weather; all damage from rain, etc., made good, and all left in perfect order when the building is done.

Prime the exterior wood and iron work with The Sherwin-Williams Paint, thinned with equal parts of pure raw linseed oil, or The Sherwin-Williams Liquid Primer, thinned with equal parts of pure raw linseed oil, allowing at least ten days to elapse after priming; then apply—coats of The Sherwin-Williams Paint, prepared, with as much time between coats as possible.

Colors to be employed in accordance with architect's special specifications.

Troubles with House Paint.

BLAME is often attached to a first-class paint for the various troubles which present themselves in its use, when the fault is entirely with the condition of the surface, or the circumstances under which the paint is used. There seems to be a great lack of knowledge on the part of consumers as well as dealers in such goods, as to the causes which produce unsatisfactory results in the use of good paint. It is the purpose of this article to outline in the briefest manner possible, some of the real causes of such troubles. The troubles arising from the use of the various inferior "chemical" or "patent" paints that are put upon the market by hundreds of manufacturers, large and small, are not here considered, our object being to show that there are conditions under which it is unreasonable to expect even so good an article as The Sherwin-Williams Paint to produce good results.

Investigate all complaints while on the spot; and report same promptly to the office, give concise statements regarding all points mentioned under head of "Troubles With Paint."

The most frequent complaints may be divided into six distinct forms, as follows:

1. Unsatisfactory drying.
2. Running.
3. Failure to cover.
4. Spotting.
5. Cracking.
6. Peeling off.

The failure of paint to dry, if it is a first-class article, made of pure materials in correct proportions, is usually caused by being applied when the weather is unsuitable, i. e., damp or cold; or on a damp surface; or in the case of inside work, by not having a proper circulation of air. This trouble is, of course, aggravated when such pigments are used as are termed "non-dryers."

Unsatisfactory drying

This is a difficulty which does not occur with a good paint. Applying the paint too thin, due to insufficient stirring will produce it.

Running

This is also caused by insufficient stirring of the paint before applying. Also by the addition of too much linseed oil to the paint.

Failure to cover

This trouble is often caused by attempting to make one coat of paint produce the result of two. Also by application over a porous or spongy surface, which takes up the oil freely and does not leave enough in the paint

Spotting

to make it stand out with a full oil gloss. Some pigments, from their nature, have a tendency to "flat" after being applied, and in such cases the first coat should contain more than the usual amount of linseed oil.

An overdose of Japan dryer in the paint will also produce spotting.

Cracking

This is usually caused by the undercoats of paint being soft, which may result if insufficient time is given for drying, or by being composed of inferior materials and the use of boiled oil for priming coats. Many of the primers on the market are not ground in good linseed oil and even first-class primers are thinned for use, either intentionally or from lack of knowledge, with poor oils with which the country is flooded. These oils from their nature never dry hard, and any paint applied over such a surface will eventually crack. The same results can be obtained by the injudicious use in primer of boiled linseed oil.

Peeling off

This is one of the most difficult of the "troubles to which paint is heir" to satisfactorily account for. As a general thing it is caused by paint being applied over an unsuitable surface. If the lumber is "pitchy" the paint is sure to peel off by the pitch being brought to the surface by the heat of the sun.

If the lumber has been kiln-dried to such an extent that the life has gone from it, leaving the surface open and spongy, the oil is soon absorbed, leaving only the shell of pigment on the building, which readily peels off. There are some varieties of lumber (notably the Norway Pine and Hemlock) which are largely used for building purposes, to which no paint can be made to adhere in all cases. Another cause is dampness of the surface. Sometimes this is not apparent at the time the paint is applied, but is drawn out by the heat. Buildings not having been painted for a long time, or new buildings not having been thoroughly primed when building, the surface being open and porous, if allowed to stand in this condition during the winter or early spring months when the atmosphere is full of moisture, are sure to be damp (although apparently dry), and any first-class paint is likely to peel off, unless sufficient time is given for the surface to get thoroughly dry.

When the difficulty arises from this cause it will usually be accompanied with blistering.

Another source of this sort of trouble is found in the use of mineral oil in the priming coat, or the application over a paint composed wholly or largely of zinc, the surface of which

is so hard that there is no chance for succeeding coats to take hold.

One common cause is the application of paint too thick, or when attempting to do two coat job on new work.

Failure to brush on thoroughly, flowing on a good oil paint will also produce peeling.

Another source of "trouble with paint" is found in the antagonism of some painters to any prepared paint, due either to prejudice arising from having tested some of the cheap mixtures on the market, and taking it for granted that all prepared paints are of the same poor quality, or in the case of unscrupulous painters (there are "shysters" in the painters' trade as in all others) who let no occasion pass for "doctoring" with neutral oils and other worthless and harmful materials, and otherwise missusing a good paint for the purpose of reflecting discredit on its reputation, sometimes out of pure malice and often because they think they are advancing their own interest by so doing. Complaints from such sources should receive close investigation, or be ignored entirely as unworthy of attention.

1st Quality Oil Colors.

THIS line of goods is offered mainly for painters' use. The largest proportion of them are used for tinting and coloring, only a comparatively small quantity being used to make paint by thinning with oil. The use of this line of goods being for the production of tints and shades for the painters' use, it is very important that they should be of uniform strength, shade, purity, and fineness and be true to name. It has been our endeavor during a long period of years to maintain as nearly an absolute standard in these respects as possible. We are exceedingly careful in selecting the pigments and coloring matters to get the very best, and spare no pains in preparing them for the market. The list of 1st Quality Colors includes practically all of the standard tinting pigments. They may be divided roughly into two general classes; one containing the Blacks, Blues, Greens, Vermilion, Chrome Yellow, Tuscan, and Indian Red; these colors all being manufactured. The other class includes generally what are known as the Earth Colors, such as Umbers, Sienna, Van Dyke Brown, and Yellow Ochre; these are found in the natural state in vari-

ous locations and in a very widely varying quality.

The most important line of colors in the sense of being the oldest, best known and most permanent, are those colors in which the coloring matter is some form of Oxide of Iron. Under this heading we find Umbers, Sienna, Indian and Venetian Reds, and Yellow Ochre; colors in which in spite of the wide variation in shade and character, the chemical composition of the coloring pigment is the same.

*Yellow
Ochre*

The color most largely used is Yellow Ochre, the approximate composition of which is 20 per cent Hydrated Sesquioxide of Iron, 80 per cent being Silica and other natural earthy materials. Earth colored with Hydrated Sesquioxide of Iron is found all over the globe. There is, however, only one source of supply for good ochre and that is Southern France.

Raw Sienna

Raw Sienna contains the same coloring pigment as Ochre. The principal difference between them lies in the very large percentage of Iron, as while Ochre contains approximately 20 per cent, Raw Sienna contains 75 per cent and upwards.

*Burnt
Sienna*

Burnt Sienna is obtained by roasting the Raw, in which process the water of hydration is driven off and the Sesquioxide of Iron changed to the

red form. The peculiar feature of Sienna lies in the extreme brilliancy which it imparts to transmitted light. It is in fact, in spite of this high percentage of Iron, which in any other pigment would give it an opaque character, almost transparent. Just why Sienna should be transparent and brilliant in its transparency, many other things of similar composition being opaque, is not known. Raw Sienna when mixed with white should give a brilliant yellow tone, somewhat approaching that obtained by the use of Chrome Yellow. The Burnt Sienna should give a bright and clear Salmon. On account of its brilliancy, the principal use for the Siennas is as a graining color, and one of the standards to which these colors are submitted is their ability to be used for this purpose. Like Ochre, Siennas are found in many parts of the world and until very recently the Italian was ranked as the best. Latterly, however, some very excellent Siennas have been found in Germany and it is from Germany that the best now comes. The present name is applied because earth of this character were first mined in Sienna in Tuscany.

Umbers contain about 46 per cent of Oxide of Iron, the balance, as in the other pigments, being earthy matter, *Umbers*

except that Umbers contain about 5 per cent of Oxide of Manganese. It is this ingredient which gives to Umber its brownish color and its drying qualities, and it is in this 5 per cent of Manganese that Umbers differ from all other earthy colors. The character of the tint of Raw Umber and white is cold and the shade of the Umber itself should be dark or almost greenish in cast. The burning gives to Raw Umber a decidedly reddish cast and there is a considerable line of warm tints which cannot be produced with any other pigment. The Raw Umber originally came from the Province of Umbria, whence its name; but at the present time and for a good many years past, the Island of Cyprus has been decidedly the best source of supply. Some fair qualities are being mined in Germany but the Mediterranean Umber is still the best.

This completes the Iron Colors so far as the natural ones are concerned.

Reds

The three Reds, Indian, Venetian and Tuscan Red contain the same coloring matters as the earth colors we have just been describing, namely Oxide of Iron. The highest grade in which it is possible to produce this coloring pigment is that known as Indian Red; it is the result of a carefully selected color and great care in the man-

ufacture, whereby it is possible to guarantee it to be over 98½ per cent pure. Indian Red is manufactured by roasting copperas, and the result as it comes from the furnace presents a considerable variation in shade. Light and Deep are procured by selection. The chief characteristic of Indian Red is a certain peculiar quality of the color called "Bloom," a sort of peachy appearance. This, and the peculiar bluish-red tint it gives with white, are its principal characteristics.

Venetian Red is produced in much the same way as Indian Red except that the copperas is mixed at the time of burning with lime, which in burning takes up the sulphuric acid from the copperas. Hence Venetian Red is a mixture of oxide of iron and sulphate of lime. The average Dry Venetian Red sold in this country contains in the neighborhood of 17 per cent of Iron. Our goods are approximately 36 per cent.

*Venetian
Red*

Tuscan Reds are made by combining with a standard Indian Red sufficient Wood Lake to deepen and enrich the shade. The standard composition of this color is approximately half of each. When a larger per cent of Wood Lake is used the color is apt to be too deep, and is, owing to the predominance of a somewhat fugitive in-

Tuscan Red

gradient, lacking in durability. Wood Lake is a color produced by striking a wood dye upon a base and the base usually employed for this purpose is Sulphate of Lime, that base being a very receptive one. In analyzing Tuscan Red the actual dye part of Wood Lake would be fugitive and would simply appear in the analysis as organic matter lost. The approximate composition would be 50 per cent Oxide of Iron, 35 per cent of Sulphate of Lime and 15 per cent of Organic Matter.

*Chrome
Yellow*

Chrome Yellow is a mixture of Oxide of Lead and Chromate of Lead, produced by the use of Bichromate of Potash in combination with some Lead Salt. The Medium is a standard shade and can be varied as desired.

The light shades are produced by adding to the mixture while it is being precipitated, a small percentage of Sulphate of Lead, this white pigment having a tendency to make the color lighter in shade. At this point some manufacturers are tempted to make their colors lighter than they really should be, on account of the difference in the cost. The light shade should contain only about 5 per cent of Sulphate of Lead.

Orange shade is produced from the Medium, by a variation in the washing at the time of manufacture.

The operation for making yellows is quite a delicate one, and the most important point is that the goods should be thoroughly washed. When the color is struck there exists a percentage of free chemical, which would be more or less injurious to oil and particularly would show in the shade and lack of durability of the color. Very careful washing is an essential.

From the Chrome Yellow we can naturally turn to the Chrome Green, which is a mixture of Chrome Yellow, Prussian Blue and Barytes. This is the only color in our line which is commercial in character and is not strictly pure. In the manufacture of Chrome Green the colors are made in separate vats and are run together while in the pulp form, the Green being not a chemical combination, but simply a very intimate mechanical combination of two chemical products.

In this connection Golden Ochre can also be considered. The Golden Ochre of commerce has no very definite composition, many of the Golden Ochres offered for use being simply a very greatly adulterated Chrome Yellow.

What may be termed, however, a normal one is produced by pulping Yellow Ochre and when in that condition mixing it with Pulp Chrome Yellow.

*Chrome
Green*

*Golden
Ochre*

low. In this way the Chrome Yellow is actually struck upon an Ochre as a base and the various particles are thoroughly stained. Golden Ochre made in this way is necessarily more permanent and lasting than a mere mechanical mixture. A normal Golden Ochre of this kind contains approximately $7\frac{1}{2}$ per cent of Chrome Yellow and $92\frac{1}{2}$ per cent of Ochre, the $92\frac{1}{2}$ per cent of Ochre being composed of 20 per cent of Oxide of Iron and the balance earthy and silicious material.

*Orinoco
Vermilion*

Among these products could also be classed Orinoco Vermilion, which is a high grade of Eosine Vermilion, the base of which is a very fine imported Orange Mineral.

We will next take up a line of colors which have carbon for their coloring pigment.

Lamp Black

The first on the list is Lamp Black, which is made by condensing the smoke from burning material. It was originally made by dripping oil on hot plates, in specially prepared chambers. In later years the process has been modified so that the majority of Lamp Black which is made today is made by spraying oil in a very finely divided state against hot plates and thereby getting a largely increased output and by reason of the fact that the oil strikes the plate in a very much more finely

divided state, it is more perfectly carbonized and it is possible to produce blacks more uniform in color and a great deal stronger. The principal thing which regulates the strength and the general quality, is the rapidity with which it is made. When the oil is sprayed against the plate very slowly and the blower produces a slow draft to draw the smoke away, the Lamp Black is of high grade; it is lighter and stronger. When the oil is rushed through the pipes the black produced is of a lower quality and a very much larger quantity is secured from the same quantity of oil burnt. For the production of Black such as is used in 1st Quality goods less than $\frac{1}{4}$ as much Black would be produced by burning the same quantity of oil as would be produced of the old time Germantown. Lamp Black is practically all pure carbon, in fact one of the purest states in which carbon exists. It is a thorough and exceedingly permanent color. As might be expected in a line of goods of this kind the American producers are the best in the world, and American Lamp Blacks form a very large percentage of all that are used.

Drop Black and Coach Black are, so far as composition is concerned, very much the same, the composition being in each case approximately 17 per cent

*Drop Black
and Coach
Black*

of carbon and 83 per cent of Bone Ash. The singular thing is that the strength of Black does not absolutely depend upon the percentage of carbon. It would seem, consequently, that the quality that gives strength comes more from the nature of the carbon than from the percentage contained in a sample. For a great many years all kinds of Drop Blacks have been imported; but at the present time the American manufacturers are producing Blacks of a very high standard quality and will probably eventually produce the best.

*Sign
Writer's
Black*

Sign Writers' Black is a very fine Lamp Black ground with the proper proportions of oil and japan, making it right for the use of the sign painter.

*Prussian
Blue*

Prussian Blue is a pigment which stands alone. Attention has been given it by buyers far in excess of its actual value to the painter. Its use is limited and even in its limited sphere it is far from perfect. It is a chemical compound and its component parts reduced to the lowest degree are approximately 51 per cent of iron, 28 per cent of carbon and 21 per cent of nitrogen; this being the only pigment in which nitrogen occurs as an element; nitrogen being the inert gas which dilutes the oxygen and forms the air which we breathe. Prussian

Blue is an exceedingly fugitive color in combination with any of the lead pigments. It darkens rapidly and loses that brilliancy of color for which it is prized.

Ultramarine Blue is another color that stands alone. It is practically a blue glass produced by roasting clay, silica, soda, and sulphur together in a crucible, breaking up the lumps and grinding it fine. Chemists do not know just why that peculiar combination of ingredients should give a blue color; but it does, and if any of the ingredients are left out or the proportions largely changed the blue color is not produced. This is what is called a translucent pigment; its use is comparatively limited although it is much more permanent both as a paint and for tinting than Prussian Blue. It however cannot entirely replace Prussian Blue from the fact that the same bright shades cannot be produced.

*Ultra-
marine
Blue*

Vandyke Brown is also a color that is peculiar to itself. It is the only pigment in the line which contains a considerable percentage of vegetable matter. A carefully selected and well washed material contains about 7 per cent of mineral matter, the balance being decayed vegetable products. It is simply peat ground fine. It is full of decayed roots and grass, is stringy and

*Vandyke
Brown*

possesses other qualities that make it undesirable for use. It is only used on account of the peculiar tint which it produces, which is a cold grayish drab.

Varnish.

There is no line more open to misstatement and more misunderstood by the trade than varnish. It is generally supposed that varnish shows a larger margin of profit than any other item in the paint trade. Unquestionably this is true of the varnish of many manufacturers. It is not true when varnish is honestly made and honestly sold. Honest varnish gives the maker no larger profit than does honest paint. The Company makes a line of varnish which will stand every known test for quality and the salesman will be given every opportunity to satisfy themselves on this point.

The well posted salesman is always the most successful one and it is most necessary to be as thoroughly posted on the products with which you compete as on those which you offer for sale. For this reason the office should be kept fully informed as to what goods are offered by your competitors and what prices are asked for them.

The reports should be carefully filled

out making reference to varnish competition on the back, and where competitors goods are not known you will be asked to submit samples that tests may be made and that you may be kept posted as to the goods to offer in competition. Many a sale is lost because the representative offers an article not adapted to meet his competition.

A full list of painters, architects, and contractors and of large buildings should be furnished the office at least once each year and changes should be noted on visiting each town and reported on the town report. A careful record of the possibilities in each town and city will be kept and the office stands ready to furnish special assistance in any city where we do not appear to be making proper headway. The high quality of our varnishes should be kept constantly before the trade and where cheap varnishes are most largely sold, personal effort should be made with architects and painters to induce a trial of the high grades of varnishes which are certain to prove more satisfactory when consistently used. Remember that your ability to sell high grade goods marks the standard of your value to this Company. The more high grade goods you push and sell the further you re-

move yourself and your goods from the unsatisfactory competition of cheap varnishes, which furnish neither profit nor honor to you or the Company.

"AIM HIGH."

You are able to offer a line of varnishes absolutely unequalled for quality, the reputation of this Company guarantees them. No other line is more persistently advertised, and no other varnish maker offers more or greater assistance to the dealers in marketing the goods than The S.-W. Company.

The architect should be your greatest aid in marketing varnish. He is not antagonistic to it as he often is to prepared paints. He specifies varnish and it is up to you to induce him to specify The Sherwin-Williams Varnishes. Every possible aid will be given you toward interesting the architects.

The painter cannot make varnish; he has to use varnish made by some one else. Make his acquaintance; make him your friend and when you have secured the specification of the architect and the friendship of the painter you will be surprised at the amount of varnish you will sell. The office should be fully advised of your efforts and wherever you find diffi-

culty in interesting either an architect or painter, special assistance will be given you which must in time turn the tide in your favor. A thorough canvass of the situation in each town is necessary for your information and for ours. If we know what you have to contend with we can and will help you to win. We cannot impress too strongly upon every salesman the necessity of informing himself and us of the local situation in every place he visits.

We must know what varnish is most largely sold in each town and why; who are the largest consumers and along what lines we must work to turn the tide in your favor. You diagnose the case and if your knowledge is not sufficient we shall help you to prescribe the proper treatment. With intelligent co-operation we cannot fail to win and we must win.

Read carefully the varnish report blank. Fill it out in every detail and keep before you constantly the fact that in a few years at the most we expect varnish to be one of the largest features in our output. Strong pressure should be brought upon the agents to carry and push our varnishes. An agent who does not push our varnishes is not a satisfactory one and if after every reasonable argu-

ment has been used he does not stock them it would be well to look for a more desirable opening in the town.

The UV should be carefully read and kept constantly at hand. It gives a most accurate description of each item in the line. All statements made therein are the results of careful tests and the goods if properly applied will invariably conform to the description given. A careful study of the UV will give you a knowledge of our varnishes which will go far toward making you a successful varnish salesman. Find out what you have that successfully competes with a similar item in a competitors line. If you cannot satisfy yourself ask your division manager. If he has no record you will be asked to furnish a sample and will be fully informed regarding a suitable article to offer in competition. By this means we hope to post the salesmen and ourselves in the same way on varnish that we have been able to do on paint. Many a good sale is lost by insufficient knowledge of the proper article to furnish for a specific purpose.

COMPLAINTS ON VARNISH.

It is not to be supposed that we can go much farther into the varnish business without a reasonable number of

complaints. Be assured, however, that the complaints are not based on defects in the goods. This is forcibly illustrated by the fact that most complaints are on high grade goods, cheap goods not being so delicate. Our system of tests and checking makes it practically impossible for the goods to be wrong. A full report should be made of every complaint. We want the salesman and the customer both satisfied that the goods are not at fault and we court a careful investigation of every reasonable complaint. We have endeavored to elaborate upon the principal sources of complaints on varnish but there is positively no line more subject to unreasonable complaints and the salesman should satisfy himself that all proper conditions have been carried out when investigating a complaint.

Varnish, by its nature, is a more delicate product than paint and is more subject to climatic changes. Many of the vagaries of varnish are almost unexplainable. A large amount of common sense must enter into the investigation of a complaint. This is particularly true on complaints of varnish. The salesmen should read with extreme care the following pages, and read them again, until he has them almost committed

to memory. It is a case where being "Fore-warned is fore-armed." The average salesman is competent to settle a complaint if he will take a position which compels the complainant to prove facts.

The causes of complaints can be classified as follows:

- Pitting,
- Enameling,
- Silking,
- Crawling,
- Sweating,
- Uneven Drying,
- Non-Drying.

Pitting

Varnish is said to pit when holes or depressions appear upon the newly varnished surface. These are varied in appearance. Sometimes pin holes will be the only evidence of trouble. Again depressions of some size will appear and there is probably no trouble with varnish more difficult to account for than pitting. The most frequent causes are lack of preparation of the surface to be varnished. Grease or smoke almost invisible to the naked eye will accumulate on a varnished surface and if not carefully removed will cause pitting. Extreme heat and humidity with lack of proper ventilation will also cause varnish to pit. Sometimes a condition of the atmosphere will cause varnish to pit for a

short time and later on the same day the same varnish will give no further trouble.

Where trouble is of a very serious nature the only remedy to be found will be a removal of the varnish coat. In slight cases the trouble can be overcome by allowing the surface to become thoroughly dry when it can be rubbed with powdered pumice and water and re-varnished.

This is closely akin to pitting. The appearance is most like a piece of *Enameling* enameled leather and is due to the same causes as pitting. In fact it is probably a case of pitting arrested before completion. It may also be due to the application of the varnish coat over too elastic a surface. It may also be caused by the brush being kept in oil and improperly cleaned. It will succumb to the same treatment as advised in pitting.

The surface has the appearance of a piece of silk and is caused by improper preparation of the surface, extreme heat and poor ventilation while drying. It is not a serious difficulty to overcome and when the surface is properly dried it may be rubbed with powdered pumice and water and re-varnished doing away in most cases with any further trouble. *Silking*

Crawling

When varnish crawls it separates and leaves bare spots. It is due to a greasy surface or to an extreme difference in temperature between the varnish and the surface to which it is being applied, the varnish crawling as it were into knots. This trouble occurs as the varnish is applied, the remedy being to remove the cause by cleaning the surface and bringing it to a proper temperature. It is also caused by the under surface sweating out. Where sweating is the cause the surface must be rubbed with pumice and water before re-varnishing.

Sweating

This is a partial return of the gloss to the surface after it has been rubbed with pumice and water and stood for 12 or 15 hours. It is caused by the varnish being rubbed before it is thoroughly dry and the treatment is to rub again.

Uneven drying

This is due to the surface being unevenly cleaned or to an uneven temperature and is peculiar to large surfaces. The remedy is to let the surface alone until dry and if necessary remove the gloss and re-varnish.

Non-drying

This is caused by dirty surfaces, fall of temperature during process of drying, lack of ventilation and by extreme humidity.

Lack of knowledge of proper preparation of the surface to be varnished is the most frequent cause of trouble. Coal smoke, grease from handling, and greasy fumes will all combine to make trouble. Where a surface is left too long between coats an almost invisible fog settles and the surface should be cleaned with water and chamoised before applying further coats. Another serious cause of trouble, one most difficult to detect, is the use by the painter of a chamois, for cleaning the surface to be varnished, which he occasionally uses upon his face and hands to wipe them off. This naturally will cause trouble. The best results can be obtained when varnish is applied early in the day, where possible it should never be applied after 4 P. M. A room should never be under 60 degrees nor over 70 to 75 degrees when varnish is applied.

*When goods
are right*

Varnish should be kept in the room where it is applied and kept as nearly as possible at the same temperature as the surface upon which it is used. Lack of attention to these details is a most frequent cause of complaint. The finest varnish will scratch white when used over a liquid filler. Best results can only be obtained by using the varnish itself, thinned with turpentine as a first

coater. Neither liquid filler nor shellac should ever be used for under coating, on out-door work, in bath rooms or on floors. Wood should be well sanded with the grain, not across it as otherwise the scratches will show through the varnish.

In conclusion, post yourselves. Remember the goods are right. Keep us posted; "Dig Deep" and results are certain.

Points on Q. D. Coach Colors.

THE S-W Q. D. Coach Colors are of very finest quality, and are noted for their strength and clearness of tone. Whether used as a paint or color, they are desirable because of their economy, as they will do more work than any other Quick-Drying Chrome Yellows.

*Chrome
Yellows*

Are prepared from the very finest quality of animal black that can be procured, and are ground in a liquid specially prepared by us for the purpose; for ordinary use they should be thinned with pure Spirits of Turpentine. No other Blacks possess to such a degree the necessary qualities of covering, tone, fineness, and binding as these.

*Ivory Drop
Blacks*

Have strong covering properties, and great durability combined with brilliancy of tone. Their large consumption by express and delivery wagon manufacturers attest their popularity.

*Coach
Greens*

Are prepared from the purest known pigments. Are very light in gravity hence have much greater bulk than other goods. They will stand a much larger percentage of turpentine in

*Peerless.
New Merri-
mac and
Nonpareil
Greens*

*No. 40
French
Carmine*

thinning than any of the cheaper greens, and are, consequently, much more economical for the consumer.

Is the purest, clearest tone Carmine that can be produced. Its working and drying properties are unexcelled. It does not liven up.

There are many qualities of so-called No. 40 French Carmine on the market, some of which while pure, are very inferior and muddy in tone. For our standard we have adopted that bright blood-red tone which is so much desired by critical buyers, and the fact that we supply more than five times as many of these goods as any other manufacturer in the market is evidence of the superior excellence of our product.

Troubles with Q. D. Colors.

DIFFICULTIES arising in the use of Japan Colors for carriage painting, together with some of the causes, are:

1. Unsatisfactory drying.
2. Rubbing up.
3. Insufficient body.
4. Course or dirty color.
5. Cracking.
6. Blistering and scaling.
7. Varnish perishing.
8. Varnish crawling on a color, etc.

Owing to the various conditions under which quick drying colors are used, and the large number of unskilled workmen who are employed to apply them, together with the fact that competition has rendered it necessary for many consumers of these materials to reduce the cost of their products by hurrying the process of painting as much as possible and still produce a satisfactory finish, many difficulties are liable to present themselves which serve to create a suspicion that some imperfection exists in the coach colors. It should, however, be borne in mind by all manufacturers engaged in the consumption of so-called Japan Col-

ors., that while everyone is liable to make a mistake, it is as easy for an error to be made by the consumer of these colors as by the manufacturer, who for years has given his most careful attention to these preparations.

Unsatisfactory drying

Possibly no more aggravating difficulty ever arises in a carriage shop when a painter is rushed with his work, than to find that the colors dry too slowly. While this trouble may result from the colors having been ground in a slow drying vehicle, in the majority of instances the cause exists in conditions for which the manufacturer of the colors is entirely irresponsible.

The condition of the atmosphere frequently causes a Japan color to dry very slowly. A color that will dry perfectly hard and tough in one or two hours, when the weather is warm and dry, or under the influence of artificial heat, will require four hours or even longer when the atmosphere is damp and close.

Many painters, when mixing colors, prefer to use a small proportion of raw linseed oil as a binder. While this may produce good results when used in small quantities, it is liable, when no definite rule for mixing is followed, to result in too slow drying. It is far

better to use body finishing varnish for this purpose.

There is a large amount of turpentine on the market, which is either adulterated or distilled direct from green wood. The latter contains a large percentage of resin, and either will cause a coach color to dry unsatisfactorily.

Raw linseed oil containing a small quantity of foreign oils (neutral or others) abounds, and is sure to cause this difficulty and others of a far more serious nature, such as smutting, varnish pitting, perishing, paint cracking, etc.

Brushes that are about worn out often cause a coach color to dry unsatisfactorily. The painter cannot lay his color uniformly without first-class tools, and color applied with a brush that is worn down until only a stub remains, is laid on heavy in some places and thin in others, which condition causes it to dry slowly and unevenly.

Brushes that are allowed to become dirty or gummy will also produce disastrous results in the drying of the color.

If the undercoats are not perfectly dry, the moisture from them will necessarily retard the drying of the color coat.

Color which is not sufficiently thinned with turpentine will not dry properly, as an excess of japan in thin color retards the drying.

Rubbing up

A color may rub up even when perfectly dry, if the vehicle in which it is ground does not contain sufficient binder; but there are a number of causes which should be sought for, before condemning the color. Often a complaint is made that a color will not dry in 24 or 48 hours, when in fact it is perfectly dry in two hours or even in a shorter space of time but still rubs up. This may result from any of the following conditions:

An excess of turpentine used in mixing a color weakens the binding properties of the vehicle in which the color is ground and causes it to smut. A color that will dry in from one to two hours so that it will not rub up, when mixed by using equal parts (by measure) of color and turpentine, may require a longer time in which to dry and may then rub up if a much larger quantity of turpentine is used. Different colors must be thinned differently, some requiring a far less percentage of turpentine to be used in mixing than others, consequently great care should be taken before apply a color, to ascertain that the proper proportion of liquid has been added. The

error of using too much vehicle should be carefully avoided.

If the undercoats are of a porous or spongy nature, the trouble of smutting up will also be noticeable, varying in degree as the condition or nature of the undercoat varies.

As a coach color dries very quickly it has little elasticity and its durability depends almost entirely on the nature of the coats underneath, as well as the varnish above it. Where the undercoats are porous the japan goes into them and leaves more or less of the color in a powdered condition on the surface, ready to rub off on the slightest contact. As this difficulty occurs both from a "lack of binder" and from the fact that the color is not thoroughly dry, in order to remove the cause we must first ascertain whether or not the color is perfectly dry.

We are often told that colors settle and do not cover, when, from the nature of the color, it ought to remain in suspension and cover perfectly. This may result from the color having been ground too coarse, or the color may not have been thoroughly mixed.

*Insufficient
body*

Oftentimes a painter mixes a color in a hurry, and, not using his customary care he fails to beat up the color perfectly; it is therefore lumpy and settles.

Where varnish is added to a color before it is thoroughly mixed with turpentine, the varnish renders the color so stiff that it is almost impossible to beat it up so it will not be lumpy or ropy, therefore, as in the former case it settles. In this way the amount of pigment held in suspension by the liquid is reduced, and the color will not cover.

Where no definite rule for mixing colors is followed, they are often overthinned with the same result as from imperfect mixing.

It is often claimed that a color will not cover, when upon careful examination it is found that the fault is not with the color but with the manner of painting. Workmen endeavor to put a light, delicate color over a ground work that is covered with a putty of an entirely different color. One coat is expected to cover this surface, which, owing to the nature of the color, is impossible. If the putty used is of the same color as the ground work, all will work well. Fresh putty spots are a frequent cause for complaint of lack of covering and rubbing up. As a rule, the more delicate the tone of a color, the more difficult it is to make it cover. Therefore, with colors of this character, the consumer should see that the ground work is of the most favorable

nature to bring out the color properly, or else decide to use a cheaper shade, which, while of not such a fine tone, is much stronger.

Aside from the fact that a color may be ground too coarse, many circumstances exist that will make a color appear coarse and gritty when applied, although it has been ground impalpably fine.

*Coarse and
dirty color*

Mixed color, standing uncovered for any length of time in a shop becomes dirty from the dust afloat. Consequently the painter should mix up just enough color to do the work in hand, and if he has a little left he can make no better use of it than to save it for the inside of bodies where it is not necessary to have a color perfect in every respect.

Dirty or worn out brushes are sure to make a color look coarse when applied. In the first place hard particles that have been allowed to accumulate in the brush mix with the color and make a very bad appearance when the color is dry. If the brushes are worn out, the color will appear dirty when applied, as it cannot be spread uniformly.

Color imperfectly mixed will look coarse when dry, as it is full of little lumps that do not brush out, but cause

Cracking

the painted surface to look as though covered with little specks.

This is one of the most serious difficulties that beset the carriage painter, and one that is very seldom traceable to the coach color, unless some liquid hostile to the nature of the color has been used in thinning it. The most common causes of this trouble arise from the manner in which the work has been painted.

Oftentimes in mixing the undercoats, too much oil is used. The consequence is that as they dry they present a too glossy surface to the coat of flat color applied over them, which is, by nature, lacking in elasticity, and causes it to draw and crack.

If the undercoats are not perfectly dry when the coach color is applied, the unequal drying caused by the different natures of the two coats, one of which is almost entirely inelastic, will cause the quick-drying color to crack.

In many cases rubbing varnishes are used which are too brittle. They crack and cause the color to crack under them.

A coat of rubbing varnish which is flowed on too heavily will harden on the surface before the under part has had an opportunity to dry, causing it

to crack and the cracking undercoat of color as well.

The same causes that produce cracking will often produce scaling, as in many cases one difficulty seems to be merely a consummation of the other. *Scaling*

When the undercoats are too hard and glossy, the color will not only crack, but will scale and force the varnish off with it.

In many cases the undercoats are sanded through to the wood, thus giving no foundation to which the color can stick. On account of the almost entire lack of elasticity in a coach color, in order to insure good results, it must have underneath it a good surface of paint to stick to, as well as a sufficient quantity of elastic varnish over it to protect it. Whenever a case of peeling arises it is an interesting experiment to examine carefully the condition of the undercoats. In many cases, when the color has peeled off it will be found the undercoats had been sanded through to the wood, while where the color is firm, the undercoats are in good condition.

Another frequent cause of scaling is dampness in the paint shop. If the atmosphere is damp, or close and steamy, the surface of the work is liable to become covered with moisture, and unless this is entirely re-

*Varnish
perishing*

moved before the color is applied, it will, in time, force its way to the surface and take the color with it. Oftentimes the work will show no signs of cracking until it is in use, when the sun draws the moisture out and causes all coats over it to scale.

When a piece of work has been finished and set aside to harden thoroughly, it is rather exasperating, just as it is about to be delivered to a customer, to find that the varnish has almost entirely lost its lustre, and it is still more annoying to have this happen shortly after the customer has begun to use it, or if he be a dealer to have him discover it after it has stood for a short time in his repository. The only thing that can be done in either case is to rub down the surface and to finish again. It is by no means easy to locate a specific cause for the difficulty in each case, as there are several conditions that may produce it.

If the undercoats are porous the varnish coats sometimes soak through the coats of flat color and die away in the filler beneath.

Where the undercoats are not thoroughly dry, or where the shop is damp, causing a film of moisture to cover the work before varnishing, which has not been carefully removed, the varnish is liable to perish.

If the varnish is flowed on too heavily it may sweat out as it dries and leave the surface dead and lustreless.

Adulterated oil or turpentine used in mixing the color are almost sure to cause the varnish to die away, in many instances, making it look, as some people say, as though the oil had struck through the varnish.

Often painters apply the last coat of color as an egg shell gloss, or use so much oil in their color that it does not dry flat, and then do not moss it before applying the first coat of clear varnish. This produces a too hard and glossy surface, and the varnish will not flow out evenly.

*Varnish
crawling on
color*

The varnish is chilled before it has had an opportunity to set.

If the work to be varnished is cold and the varnish warm, or the varnish cold and the work warm, the varnish is almost sure to crawl. The temperature of both should be as nearly the same as possible. This trouble is more likely to occur in winter than in summer as, in many cases, the work is cold, and the painter warms the varnish to make it work easily.

Perfect Method.

*A comparison with
Lead and
Oil*

THE following comparative table shows the difference in time required for painting a vehicle by the lead and oil process and Perfect Method, and gives number of coats and number of days between each coat of each on bodies.

PERFECT METHOD.

Operation	1C—Prime	1 day
"	2C—Putty	1 day
"	3C—Sand and apply coat Body Filler, 1st coat	1 day
"	4C—Apply coat of Body Filler, Regular	1 day
"	5C—Apply coat of Body Filler, Regular	1 day
"	6C—Apply coat of Body Filler, Regular	1 day
"	7C—Apply coat of Body Filler, Regular	1 day
"	8C—Apply Guide coat	1 day
"	9C—Rub out and let stand to dry	2 days
"	10C—Re-putty and sand for color	1 day
"	11C—Flat Color	1 day
"	12C—Coat of S-W Jet Black Body, or S-W Jet Black Quick Rubbing Varnish	2 days
"	13C—Rub out and let stand	1 day
"	14C—Coat of S-W Clear Rubbing Varnish	3 days
"	15C—Rub out	1 day
"	16C—Coat of S-W Clear Finishing Varnish	1 day

LEAD AND OIL.

1st Operation	Prime	6 days
2d	Putty	1 day
3d	Sand Paper	3 days
4th	Oil Lead	3 days
5th	Coat of half and half	1 day
6th	Coat of Rough Stuff	1 day
7th	Coat of Rough Stuff	1 day
8th	Coat of Rough Stuff	1 day
9th	Coat of Rough Stuff	1 day
10th	Guide coat	1 day
11th	Rub out and let stand to dry	2 days

12th Operation—	Re-putty and sand for color.....	1 day
13th "	Flat Color.....	
14th "	Coat of Black Rubbing Varnish.....	2 days
15th "	Rub out and let stand	1 day
16th "	Coat of clear Rubbing Varnish.....	3 days
17th "	Rub out.....	1 day
18th "	Coat of clear Finishing Varnish.....	1 day

Perfect Method—Total, 16 Operations, consuming 19 days.

Lead and Oil—Total, 19 Operations, consuming 27 days.

Under the lead and oil system you will notice (No. 5) half and half. This is a coat of half lead and half rough stuff, which is used by most painters in custom shops and takes the place of a coat of rough stuff. Some painters do not use a guide coat; where they do not it is not necessary to use it with Perfect Method.

It is barely possible that some painters will not give six days for coat of priming to dry with the lead and oil process, but more will give a longer time. You will notice under No. 11, in the lead and oil process we say "Rub out, and let stand, two days;" where they wish to rush the work they may let it stand only one day after the last coat of rough stuff is applied before rubbing out, but oftener they would let it stand longer.

We have endeavored in this table to be as conservative as possible as to the length of time required to do a first-

class job in a custom shop with lead and oil and we have not shortened the time necessary to do a first-class job with Perfect Method. It is customary in both methods on custom work to give more than one coat of clear rubbing for a first-class job, but as the time for these coats should be the same, whether lead and oil were used or Perfect Method we have taken no account of it.

We next present a comparative table showing the difference between the lead and oil process and Perfect Method, and giving the number of coats and number of days between each coat for each, on running parts.

PERFECT METHOD.

Operation 1—Prime	1 day
2—Hard Putty and Glaze or Surface	1 day
3—Sand down	1 day
4—Coat of Gear Filler	1 day
5—Coat of S.W. Solid Rubbing Varnish, or S.W. Gloss Color	1 day
6—Moss out	1 day
7—Coat of S.W. Clear Rubbing Varnish	2 days
8—Rub out	1 day
9—Stripe	1 day
10—Coat of S.W. Clear Finish- ing Varnish	1 day

LEAD AND OIL.

1st Operation—Prime	4 days
2d " Re-Putty	1 day
3d " Sand out	1 day
4th " Oil Lead	3 days
5th " Duration of both	4 days
6th " Re-putty	1 day
7th " Sand out	1 day
Dead Lead	1 day
Duration of both	2 days

*Running
parts*

8th Operation—	Moss for color.....	1 day
9th	Coat of Flat Color.....	1 day
10th	Color Varnish.....	1 day
11th	Moss out.....	1 day
12th	Clear Rubbing Varnish.....	2 days
13th	Rub out.....	1 day
14th	Stripe.....	1 day
15th	Coat of Clear Finishing Varnish.....	1 day

Perfect Method—Total, 10 Operations, consuming 9 days.
Lead and Oil—Total, 13 Operations, consuming 19 days.

As in the case of the table prepared for body work, we have endeavored to reduce the number of days required for the lead and oil process to the lowest possible limit necessary for good painting. Several of these operations would be given longer time ordinarily. Some of them might be shortened slightly on a rush, but we have tried to be as fair as possible. The table applies strictly to brush lead, which is applied with a brush. Parties, where using rub lead, which is applied with a brush and then rubbed in with the hand, might not use both a coat of oil lead and a coat of dead lead, but would be obliged, in order to produce first-class work, to give the rub lead eight or ten days to dry, and the labor of applying one coat of rub lead would be equal, and probably cost as much, as to apply a coat of oil lead and dead lead with a brush, and the time would be even longer.

We not only save time on each of

*Where the
saving
comes in*

the undercoats, such as primer and filler, but we save coats, and the labor of applying them, which constitutes our saving in cost.

We do not claim that our priming costs less than lead priming or our filler less than a coat of lead; but we do claim that we save coats and labor which causes a vehicle painted with Perfect Method to cost no more, if as much, as though painted with lead and oil.

Oil lead is a lead containing little turpentine or japan and while not as elastic as an oil priming is more elastic than dead lead, which is generally made from keg lead thinned with turpentine and a little japan to make it dry. Color varnish, as employed in the lead and oil process, is either made from clear rubbing and a japan color thinned down with turpentine, which causes it to be less elastic than clear rubbing varnish, or else it is manufactured by the varnish maker from dry color and clear varnish. It is not so strong as Solid Rubbing Varnish and must be used of a coat of flat color to insure proper covering.

Solid Rubbing Varnish, as we make it, is made from very strong pigments especially adapted for this purpose, and a first-class clear rubbing varnish, which we prepare especially for our

Solid Rubbings, is tougher and more elastic than color varnish made from japan color or color varnish made by the average varnish maker.

Under lead and oil process, No. 11 means that the color varnish is rubbed with curled hair, or moss, to clean off any specks that may appear in the color varnish, or on it; it also roughens the surface of the varnish slightly, or rather removes the gloss, and produces a surface over which a clear rubbing varnish can be used without crawling.

Under the lead and oil process, No. 13 means that the clear rubbing varnish is rubbed with pulverized pumice stone and water so as to produce a perfectly smooth surface.

Perfect Method Gear Filler is ground as fine as any flat color and is applied with a camels hair brush. It consequently requires no sanding.

Running parts should be sanded with No. 0 Sand Paper. Coarser Sand Paper cuts too deeply and cuts down rather than smooths the surface.

Remember that the purpose of a coat of primer is to form a tough elastic coating which will shed water, withstand vibration and present a proper surface for subsequent coats. To secure this the primer must be left on the work, not sanded through nor

off onto the floor. Failure to heed this may cause disastrous results.

Perfect Primers, Surfacers, and Fillers are in liquid form ready to use and require no thinning except from exposure the goods become too thick to work freely when they should be thinned with the smallest amount of pure spirits turpentine only.

Body Filler, 1st Coat, and Body Filler should never be applied heavier in consistency than will enable the goods to spread without brush marks,

Regarding the Sale of Specialty Goods.

In a general way we can say that the qualities needed to make up the successful salesmen in our other lines must also be had in the sale of specialty goods. There are however, a few particularly important facts which must never be lost sight of.

1st.—Learn the qualities and uses of our own goods and if you can how they compare with those of your competitors, most largely sold.

2nd.—If special goods radically different from any of ours are demanded, get samples (never less than $\frac{1}{2}$ pound of paste goods and $\frac{1}{2}$ pint of liquid goods just as they are bought with-

out any further manipulation or thinning) and let such samples always be plainly labelled and accompanied by complete report on requirements demanded and how used, kind of surface applied over, quantity used and if possible, price (at least approximate) being paid.

Do not offer to duplicate shades, etc., exactly if we can sell from our regular listed lines. We want to sell our own goods. When samples are ordered sent, acquaintance, at least of the man who must later test or use the goods, should be made or you cannot hope to get fairest reports on what you send. Not that we would have you use any undue influence with "the man behind the gun" but rather to have him become sufficiently interested in you to carefully test and report on what you have submitted.

Having done the preliminary work and sent the sample, follow it up closely and if possible be on the ground when the goods are tested, especially if you have any doubts about not receiving full consideration. Remember that the painter is pestered to death with samples to test and you cannot as a stranger hope to have him favor you with the fairest test and report which your goods merit if you do not, first, if possible, make him your friend.

Then, too, you will learn much of value by seeing goods practically applied. If you have doubts about your man and cannot reach a given point when your samples are due, it is better to write and have test postponed until a little later on when you can be on hand, rather than be unwarrantedly turned down.

Investigate closely any cases of complaint and report them fully as to any explanation made, solution or adjustment arrived at. Conditions have all to do with the use of special goods and complaints are usually founded on some one or more faulty local conditions.

Take nothing for granted that you can reasonably ask to see demonstrated. It is the salesman who establishes a reputation for carefully investigating and disproving claims of lack of quality or of faulty goods that succeeds beyond the other fellow.

Read carefully all of our literature, descriptive of specialty goods and directions for using them and as often as you can see such materials practically applied.

ABOUT SOME OF OUR LINES BRIEFLY.

Machine Paints.—Ground finer than any others, hence go farther and lay

out smoother; dry uniformly;—other makes are largely lacking in those qualities.

Machine Fillers.—Ground in better vehicles, work and dry better and have greater adhesion for metal. Others ground in cheaper liquids dry out porous, sand dusty and chip readily. When used on hot surfaces apply as nearly flat as possible to prevent blistering. Never apply machine paint or filler to greasy, wet or frosty castings, and expect best results in drying and durability.

Oil Proof Machine Paints to give best results must be applied with a soft bristle or fitch brush over surfaces which are not unduly absorbant, as in case they are, they soak up the liquid in Oil Proof Paints, make them dry flat in spots and render them unable to withstand contact with lubricating oil without spotting.

Care must be taken also when applying not to lap the work if a uniform effect is desired.

Lustral Colors.—A moderate priced varnish color which can be successfully employed for a vast number of uses; is especially adapted for finishing coats on steam pumps and engines, gas and gasoline engines, etc., as it withstands a very high heat without blistering.

Agricultural Implement Primers.—

Good foundations make possible good super-structures. We therefore are firm in believing only in good primers. This applies to pigments and liquids and also to proper manipulation and grinding. It is a simple matter to make a *cheap* primer, but quite another proposition to make a line like ours, that is, moderate in price yet possessing good body and working quality, fine grinding, light gravity and ability to do good service in use under other paints.

Our primers, unlike many, do not settle readily, consequently mechanical agitation in use is not indispensably necessary and so called reducers are also not required in thinning them for application. Pure spirits turpentine or naphtha and pure boiled linseed oil being all that is required for general use. Thinned as above they dry to second coat next day.

Farm Wagon Gear Primers are made to take the place of the old fashioned red lead primer so long used. They are much bulkier than the former, contain a much larger percentage of oil and are not such active dryers as red lead, consequently are more elastic and durable. Their drying can be retarded by adding a little raw linseed oil in thinning.

Agricultural Implement Gear Colors are made with special reference to their use. Assortment is large and we believe is the best by far ever offered by any one. Fine grinding, good body, working quality and light gravity are also characteristics of these goods. In selling this class of materials salesmen should bear in mind if any complaints of mis-matching of colors are claimed, that that difficulty is nearly always due to irregularity in thinning for use.

The more a color (especially gray or green) is thinned, especially if oil is used in the mixture, the lighter will be the shade. This also applies to vermilions which appear duller and darker just in proportion to the extent to which they dry quicker and flatter. Thinned as indicated for primers they dry to recoat the next day.

Our Eosine Vermilions are better dyed than others, in that we not only use better dye matter but we set it faster upon the base, an important consideration in the way of durability and color.

Premier Non-Fading Red.—

Read all we have to say in our literature on this particular specialty, about its fast color, rich shade, light gravity, and great economy. 100 lbs. will do about as much work as 150

lbs. of old style (eosine or American) Vermilion of good quality.

French Crown and French Permanent Greens.—Very fine, rich shades, stronger in staining power than others and when mixed are noticeably free from the tendency to float, found in nearly every other make.

Varnish Colors.—Good body, dry readily with a rich full gloss and don't grow brittle.

Opaque Colors color perfectly with one coat on bare iron. On wood, on account of the absorption they should be applied over a suitable primer to get best results.

All A. I. P. goods can be dipped or brushed.

Agricultural Implement Striping Colors on account of being usually applied over surfaces which are somewhat elastic and not perfectly dead and flat are ground somewhat slower drying than regular Quick Drying colors. When thinned with spirits turpentine alone they will dry sufficiently elastic so as not to crack on wagon or implement work which is painted in the usual way.

Express and Delivery Wagon Colors.—A specialty prepared for use in carriage and wagon repair shops, where on account of the character of the work it is not desired to paint in

flat or dead coats but rather between oil and flat.

A splendid line of most popular colors put up in paste form, finely ground, and require to be thinned with spirits turpentine only to be fit for regular use. Vastly more economical than mixing up colors from dry materials or by tinting keg lead as has been the custom.

Bedstead Baking Enamels.—Choice assortment of regular shades. Our white is whiter than others and our colors cleaner toned. White bakes at 125 to 140 and light colors at 140 to 165 for all night and when finished and hard our goods do not become brittle and mar readily. Compare our goods in every way with others and note their points of excellence. For white work two coats of primer and one of finishing will produce a fine finish, while two coats of the more opaque colors will suffice.

Goods are furnished right for brushing, and for dipping should be reduced with from 1 pint to three $\frac{1}{2}$ pints spirits turpentine per gallon, which enables them to flow and drain properly and also reduces the cost per gallon.

Air drying enamel for bedsteads and other work similar in quality to the

above except that the goods will air dry and do not require baking.

Read what we say about Aridos and Petriloïd and push them for use in old and new structures to keep out dampness. They are right and are worthy of your attention.

We cannot undertake to enumerate in detail regarding all of our specialties but we do not hesitate to say that no one has ever given such attention to that class of goods as we have and our great success with them is a guarantee of their real merit.

Information on Railroad Specialties.

FOR FREIGHT CARS.

Standard Freight Car Paint.

Perfect Method No. 3.

Ground in semi-paste form in pure linseed oil and especially prepared dryer. Should be thinned for use with boiled linseed oil only, no dryer needed.

Three coat work on new cars for best work thin as follows:

1st coat, 4 parts oil to 1 of paint.

2nd coat, 3 parts oil to 1 of paint.

3rd coat, 2 parts oil to 1 of paint.

Average, 3 parts oil to 1 of paint.

3 gals. oil at say 45c...\$1.35

1 gal. P. M. 3..... .85

4 gals. paint.....\$2.20

1 gal. paint..... .55

For two coat work thin 4 to 1 for first coat and 2 to 1 for last coat.

There are railroad shops where a considerably larger proportion of oil is used with entirely satisfactory results.

Perfect Method No. 2.

Thin 3-2-1, average 2 parts of oil to 1 of paint.

2 gals. oil at say 45c..\$.90

1 gal. P. M. 2..... .75

3 gals. paint.....\$1.65

1 gal. paint cost..... .55

It should be borne in mind that figures given above and hereafter will vary materially according to the price of linseed oil.

Cost of material to paint a 34 foot box car with P. M. 3, sides, ends, and roof.

3 coats, 2½ gals. P. M. 3 at 85c. \$3.13
 7½ gals. oil at 45c. 3.38

\$5.51

2 coats, 1¾ gals. P. M. 3 at 85c. \$1.51
 5¼ gals. oil at 45c. 2.36

\$3.87

1 coat, 1 gal. P. M. 3 at 85c.85
 3 gal. oil at 45c. 1.35

\$2.20

DURABILITY—It will last the average life of a car.

DRYING—With three-coat work car can be lettered and run out of the shop the second day after first coat was applied.

FINENESS OF GRINDING—Makes easier working.

Saves in cost of brushes.

Increases covering capacity.

Improves appearance.

Adds to durability.

Peculiarly adapted to use with air machine.

User knows this to be pure oil paint.
He himself puts the oil in.

When making the paint we put in
the requisite amount of dryer.

This dryer is especially prepared in
concentrated form, so that the least
possible amount of linseed oil is dis-
placed.

Standard Steel Truck Paint.

This material is being used by many
of the large railroad and car line
companies and they are specifying it
on all new equipment. Most freight
trucks are now made of steel and re-
quire the best possible protective coat-
ing against rust. This paint is very
elastic and of remarkable durability.
Requires to be prepared for use by
thinning with one gallon of boiled lin-
seed oil to one gallon of paint.

Special Black for Iron Work.

For use on brake rods, truss rods,
steps, hand rails, etc.

Exceptionally low price. The best
for the money.

Coal Cars or Gondolas.

Standard Freight Car Paint Black
No. 408 should be always recom-
mended for use on wooden gondolas
where color wanted is black. Our ex-
perience has been that given a fair
trial this black will invariably demon-

strate its superiority and economy when compared with any others, even those offered at much lower price. It is blacker, is ground finer, dries and works better and more uniformly, presents a better finish when dry, and is more durable. Requires reduction with one gallon oil to one of paint.

Steel Cars.

Always recommend Metalastic (see full information in B-3 booklet.) Where mineral paint is demanded sell P. M. 3 or P. M. 2 (see page 104).

Cabooses.

Standard Outside Caboose Color "New Red."

Outside Caboose Yellow.

In oil, japan or varnish.

For trucks, floors, inside walls and ceilings, same as noted under Passenger Equipment.

For Railings.

Special Black for Iron Work.

For Roofs.

Extra Heavy Roof Paint or P. M. 3.

Refrigerator and Line Car Colors.

Standard Line Car Yellow; P. M. 2.

Extra Heavy Roof Paint.

Will thin 2 to 1, and if necessary, 3 to 1. Thinned 2 to 1 with oil at say 45c. cost would be 57c. per gallon.

Stencil White, Stencil Black.

To be used for lettering.

PASSENGER EQUIPMENT.

THE S-W. SYSTEM FOR SURFACING PASSENGER CARS.

The S-W. Co. Car Primer.

The S-W. Co. Car Surfacer, light.

The S-W. Co. Car Surfacer, dark.

DARK CARS

LIGHT CARS.

Mon.—Primer

Primer

Tues.—Putty

Putty

Wed.—Dark

Light

Thu.—Dark

Light

Frid.—Dark

Light

Sat.—Rub or guide Rub or guide.

This schedule is based on 3 coats of surfacer, more coats can be used and should be recommended where railroad companies are using more coats of C. or No. 3. Our Surfacer may be thinned with turpentine slightly, about a half pint to a gallon of Surfacer, (dark or light).

The S-W. Co. Sanding Surfacer, Light.

The S-W. Co. Sanding Surfacer, Dark.

To be recommended only where it is desired to get a surface with sand paper instead of rubbing stone.

Advantages of S-W. Co. Car Primer and Surfacer.

It is not unhealthy to the workmen like the lead system.

It works easily. Piece-work men like it.

It rubs easily.

The various coats are more homogenous than in other systems.

It eliminates that coat that corresponds to other manufacturers' B or 2.

It requires fewer days to bring car from the wood to color coat than most systems.

Unlike other systems it can be hurried without bad results.

Colors in Japan.

Body Colors in Japan,

Truck Colors in Japan,

Sash Colors in Japan,

Lettering Colors in Japan,

Striping Colors in Japan,

Trimming Colors in Japan.

Our Japan insures quick drying with all necessary binding qualities. Most Q. D. Colors in use in railroad shops require a little oil or varnish in thinning. Our colors require the addition of nothing but pure spirits of turpentine. They dry quickly. They will not rub up under varnish. They are made from the strongest pigments and are ground extremely fine. They will, therefore, take more turpentine to the pound than any other colors. This means economy. They are absolutely uniform in shade and quality.

Truck Color in Varnish, or Truck Enamel.

Easy working, durable, good gloss.

This should be one of the best selling articles you offer to railroads. Colors and varnishes in one operation, saves the cost of a coat, both material and labor, to say nothing of time.

High Gloss Truck Colors.

A truck painted, striped, and varnished according to the method in general use now, loses in a very short time its new appearance. A paint of moderate cost with good gloss, durable and easy to put on could at the same or less expense be more frequently applied and keep the truck looking well more of the time. High Gloss Truck Color meets this want exactly.

Rattan Seat Enamel.

For renovating and preserving rattan seats. Frequently one coat will suffice. For best work two coats should be applied. Imitates the natural color of rattan. Dries hard over night.

Graining Colors and Varnish Stains.

For inside woodwork.

Passenger Car Floor Paint.

Easy to apply. Dries hard over night. Has good gloss.

Passenger Car Roof Paint.

The best product to offer for this purpose is Pullman Standard Roof

Paint or Special Heavy Roof Paint No. 1746. Both of these require reduction with boiled oil in proportion of 1 gall. oil to 1 gall. paint.

Metal Roof Primer.

Designed as a first coating for tin or galvanized iron covering of hoods of passenger cars. The hood is of all parts of a car the most troublesome to a painter. This is the only material which will hold on these parts. Gray in color. To be used as priming coat only.

Black for Railings, in Varnish.

Works easily, dries well, extremely durable, beautiful enamel like finish.

Inside Wall and Ceiling Colors.

For baggage, mail, and express cars. Ready for the brush, convenient, no waste, dries quickly, good gloss, durable, light shades.

LOCOMOTIVES.

Durable Engine Finish Black and Green.

Russia Jacket Enamel.

Colors and varnishes in one operation. High gloss, easy working and very durable. Our tests have convinced us that it is without exception superior in every respect to any other locomotive enamel.

Engine Cab Colors for Inside.

Q. D. Varnish or Oil Liquid.

Recommend the use of these colors in varnish.

Glazing Lead.

Smoke Stack Black.

Imitation Gold (for lettering).

FOR STRUCTURES AND MAINTENANCE OF WAY.

For Depots and Buildings.

In general same talking points as S. W. P.

No waste in our paint, no time lost in mixing, no trouble on account of lack of uniformity in shade. No trusting the making of your paint to inexperienced hands, whose business it is to know how to paint, not how to make paint.

Paint made by hand from lead and oil costs in material alone \$1.35 to \$1.40 per gallon.

Standard Depot Paint costs \$1.25 per gallon.

A gallon of lead and oil will cover two coats not more than 225 sq. feet.

Standard Depot Paint will cover two coats to the gallon, over 300 sq. ft. when applied over a fair average surface. This indicates a saving in the use of Standard Depot Paint as com-

pared with one made from lead and oil
of nearly 33 1-3 per cent.

FOR BRIDGES AND STRUCTURAL IRON.

Metalastic.

A perfect protective coating for iron and steel surfaces of all kinds. Made in two colors, brown and black. Thins 1 to 1. Half the cost of the paint ready for application is only that of boiled linseed oil.

Great spreading properties.

Perfect opacity—will cover solid over anything.

Can be used on wood as well as iron.

Very economical—very durable.

We know this to be one of the best paints ever put out of our factory.

Where specifications call for the use of carbon paint, Red Lead, Graphite or Mineral Paint, we can furnish it.

Carbon Paint, "Red Diamond Brand."

Carbon Paint, "Red Diamond Brand," the first and still the best carbon paint on the market. Made to thin 1 to 1 with boiled linseed oil.

Liquid Red Lead.

The economy in the use of our Liquid Red Lead, where a considerable quantity is used, is from the fact that it does not get hard in the package,

and that consequently there is no waste. All liquid red lead in the market, other than our own, unless used immediately, becomes hard in the package, and subjects the consumer to great loss, often as great as 25 per cent.

High Grade Graphite Paint.

The trouble with most of the Graphite Paint on the market is due to the fact that a very low grade of material is used in its manufacture; in fact the pigment so called graphite contains only about 15 per cent pure graphite. The graphite we use in this paint is chemically pure.

Mineral or Oxide Paint.

Made in P. M. 2 or P. M. 3 form. See arguments for Perfect Method Freight Car Paint.

Special Bridge Paint.

Same as Roof and Bridge Paint in general catalogue. Can sell this where your sale is principally a matter of low first cost per gallon to consumer.

Target Paint in Varnish.

Colors and varnishes in one operation.

Put up in small patent closing cans, giving convenience and obviating waste. Easy to apply. Very durable.

Price \$4.50 per gallon. A target red mixed by hand, if made from English Vermilion which is the only pigment on the market any where near as permanent, costs approximately per gallon as follows:

In Oil.

12 lbs. Eng. Vermilion Dry	
at 70c.	\$8.40
7/8 galls. Linseed Oil at 45c..	.39
	\$8.79

In Varnish.

12 lbs. Eng. Vermilion Dry	
at 70c.	\$8.40
7/8 galls. Varnish \$3.00....	2.66
	\$11.06

**GENERAL POINTS FOR ALL OUR
PAINTS.**

Uniformity of shade, consistency, drying, and working qualities, and durability.

Spreading capacity due to fine grinding.

Concentrated dryer—displaces the least possible amount of oil.

The reputation of the house—can't afford to take chances and put out goods which are not right in every respect.

Paints made on the latest, most perfect machinery made on our own patterns.

Over 30 years devoted to perfecting our goods and our methods have given us the most skilled workmen, each in the work which is his to do, to be found anywhere. This long time spent in catering to the railroad trade, studying their needs and learning how to meet their wants, should make our experience valuable to those willing to avail themselves of it. We sell more of the prominent roads in the United States and Canada a greater part of their paint than any other house.

RAILROAD PAINTS AND COLORS

CLASSIFIED ACCORDING TO EQUIPMENT.
FOR ROLLING STOCK.

Passenger, Mail, Baggage, etc.

Car Primer and Surfacers, (Liquid.)

Body Color, (Japan.)

Trimming, Sash, Letter Colors, etc.

(Japan.)

Varnishes—

Truck Color, (Japan.)

(Oil Paste.)

(High Gloss.)

(Varnish.)

Hand Rail Black, (Varnish.)

Rattan Seat Enamel.

Roof Paint, (Liquid.)

Floor Paint, (Liquid.)

Inside Wall and Ceiling

Colors, (Varnish.)

(Japan.)

(Oil Paste.)

(Oil Liquid.)

Freight Cars.

P.M.-3 P.M.-2

1618 406 Princes Mineral Brown.

1721 407 Venetian Red.

1670 1859 ½ Princess. ½ Venetian.

5509 5565 Can. Oxide; Johnson's
Magnetic.

408 Black.

Special Standard Steel Truck Paint.

Special Black, for iron work.

Metalastic Black, Brown, (Semi-
Paste, reduce 1 to 1.)
Stencil White, (Oil Paste.)
Stencil Black, (Oil Paste.)

Locomotives.

Locomotive Primer and Surfacers.
Durable Engine Finish, (Varnish.)
Inside Cab Color, (Japan.)
(Varnish.)
Smoke Stack Black, (Liquid.)
Imitation Gold (Japan,) for letter-
ing.

Refrigerator and Line Cars.

In oil liquid
P. M. 2 Yellow, (thin 1 to 1.)
Stencil Black, (Oil Paste.)
Stencil White, (Oil Paste.)
Special Black for Iron Work,
(Liquid.)

Cabooses.

Outside Caboose Colors, (Japan.)
(Oil.)
(Varnish.)
Special Black for Iron Work.
(Liquid.)
Stencil White, (Oil Paste.)
Stencil Black, (Oil Paste.)
Floor Paint, (Liquid.)
Roof Paint, (Liquid.)
Inside Wall and Ceiling
Colors, (Japan.)
(Oil Paste.)
(Oil Liquid.)
(Varnish.)

Steel Cars.

Metalastic Black, Brown, (thin 1 to 1.)

Stencil White, (Oil Paste.)

Coal Cars and Gondolas.

408 (thin 1 to 1.)

P. M. 2 and P. M. 3, where Mineral Paint is wanted.

FOR STRUCTURES AND MAINTENANCE OF WAY.

Depots.

Depot Paint, (Liquid.)

Body,

Trimming.

Sash.

Floor Paint, (Liquid.)

Varnish Stains, (Liquid.)

Filler, (Paste and Liquid.)

Graining Color, (Paste.)

Targets.

Target Colors in Varnish, Red.

White.

Green.

Black.

Bridges.

Metalastic (thin 1 to 1.)

Carbon Paint, "Red Diamond Brand," (thin 1 to 1.)

Mineral Paint, (P. M.-3 and P. M.-2.)

Graphite. (Liquid.)

Liquid Red Lead.

Street Ry Department.

The following paragraphs cover the method of painting a street car. Group II under the heading "color coats" will cover the case of almost all steam railroad passenger coaches. The information is in such shape that it can be incorporated in general specifications for new cars. Where your customers specify our material they should promptly advise us in the following respects.

- 1st.—Name of builder.
- 2nd.—Number of cars ordered.
- 3rd.—Time of delivery of cars.
- 4th.—Numbers or names of all colors specified.

The explanatory notes in small type should not be used in specifications. They will however be a help to those to whom you are furnishing suggestions for the painting of their own equipment.

SUGGESTIONS FOR CAR PAINTING FOR EITHER NEW OR BURNT OFF WORK.

BODIES.

Undercoats.

- 1st day, 1 coat S.-W. Co. Car Primer. (Let stand two days).
Care should be taken to thoroughly

brush the Primer into and around all cracks, nail holes, etc.

2nd day, Putty.

3rd day, 1 coat S.-W. Co. Car Sur-
facer.

4th day, 1 coat S.-W. Co. Car Sur-
facer.

5th day, 1 coat S.-W. Co. Car Sur-
facer.

For group I under "color coats" specify surfacer light. For groups II and III surfacer dark.

Sixth day, Rub out (See remark (4) below).

REMARKS.

1. The Primer, where conditions of weather or surface make it necessary, may be thinned with about $\frac{1}{4}$ pint of turpentine to the gallon. Positively nothing else must be used.

2. For burnt off work or on metal surfaces the Primer should receive additional turpentine,—about $\frac{3}{4}$ pint to the gallon.

3. The long standing open of a can or certain weather conditions, especially low temperature, may make the Surfacers work too thick and show the brush marks too much. In such cases about $\frac{1}{4}$ pint more turpentine should be added to the gallon of Surfacers. Nothing else must be added.

4. The use of a guide coat on top

120

of the last coat of Surfacer should depend on what the man who does the rubbing has been accustomed to. If he has been accustomed to the use of a guide coat it will be safer to use it with this material. If he has been used to rubbing safely without a guide coat, he can do so just as safely with S.-W. Co. Car Surfacer.

Color Coats.

Use specifications under Groups I, II or III according to the color selected.

Group I.

Yellows, Creams and Other Delicate Tints. Includes Regular Colors No's.

500	507	514	544
501	508	515	548
502	510	516	559
504	511	517	560
505	513	543	

Special Traction Yellow.

Special Traction Orange.

Apply 3 coats of Car Body Color No. — (Very few of them may at times require four.)

Thin for use with turpentine only.
(See remarks (2) below).

Group II.

Pullman, Tuscan Red, Greens and All Dark Opaque Shades. Includes Regular Colors No's.

518	523	536	550
519	524	545	554
520	526	546	556
521	528	547	557
522	530	549	558
			561

Tuscan Reds.
Pullmans.
Special Traction Green.

Apply two coats of S.-W. St. Ry.
Car Body Color No. —. Thin for use
with turpentine only. (See remarks
(2) below).

Group III.

Bright Reds. Includes regular colors
No's.

532	551
533	552
534	553

Special Traction Red.

Most of these colors derive their richness
and brightness from material which of
necessity makes them more or less trans-
parent. Such colors require the use of a
special "ground."

Use (one or) two coats of the S.-W.
Co. St. Ry. Special Red Ground No.
—, thinned for use with turpentine
only.

Use over this one coat of the S.-W.
Co. St. Ry. Car Body Color No.—,
thinned for use with turpentine only.

(See remarks (2 and 3) below).

For choice of "ground" see page 14 to
16 S.-W. Co. St. Ry. catalogue.

REMARKS.

1. The Sherwin-Williams Colors possess all necessary flattening and binding properties. They may be thinned with turpentine with no danger of rubbing up under the varnish. We recommend therefore that nothing but pure spirits of turpentine be used in preparing them for the brush. If anything else is used it should be confined to raw linseed oil, not more than a teaspoonful to the pint of turpentine.

2. We do not recommend the use of color varnish. Good work has been and will be done by using the color this way. With some painters it will help to overcome the tendency some colors have to streak. As regards durability, however, it introduces an element of danger which does not exist where its use is dispensed with.

If color varnish is to be used in these specifications it would take the place of what would otherwise be the last coat of color mentioned in each of the groups above.

3. If color varnish is ever good it is in the case of some of the *bright reds*. Here it would form the only coat of Body Color to be applied, as it would go directly over the red "ground."

Lettering, Ornamenting, etc.

n. Gold Leaf, Color Stripes, etc., shall be laid directly on the last coat of flat color.

o. (Insert here specifications regarding choice of material for stripes and letters, reference to patterns for same, location of same, etc.)

Varnish.

Apply three coats of Sherwin-Williams Durable Railway Body Varnish.

REMARKS.

1. The use of Rubbing Varnish has been almost entirely discarded by all the large steam railroad shops and the large electric companies are getting in line with this policy which insures a more durable job. The use of a coat of Rubbing Varnish will give a more glossy and sometimes smoother appearance at the start, but after a month or two in service a car usually shows very plainly the difference in value of the two methods, the difference being in favor of the use of the Finishing Varnish only.

2. Most companies allow but two coats of varnish. A car should be revarnished every year. If this policy is not adapted true economy would demand the use of a third coat of varnish at the start.

Car Interiors.

Filling, Staining, etc., to be according to most approved shop methods.

Note.—In case of open grained woods requiring filler, specify the use of Sherwin-Williams Plaster Filler.

Finish with two coats of S.-W. Co. Durable Inside Railway Varnish.

Note.—The matter of a 'rub' or 'gloss' finish is one of taste and expense. This varnish is suitable for either style. If a rub finish is desired it should be so stated in the specifications.

*Bumpers, Hand Rails (If black),
Stanchions, Brake Wheels, Control-*

lers, Etc., give two coats S.-W. Co. Hand Rail Black in Varnish.

Note.—These parts are in close proximity to the finished car body and to the notice of passengers. They should have a good varnish finish in keeping with the rest of the car.

Trucks.

Give two coats of S.-W. Co. Standard Truck Color in Varnish No. —.

Note.—(1.) The practice of ornamenting trucks has been almost entirely discontinued. If it is desired to strip or ornament the trucks on top of Standard Truck Color in Varnish, the striping color should be mixed in varnish.

(2.) Steps and platforms should or should not be included under this heading, according as they are or are not to be painted with the truck color.

Floors.

Give three coats of S.-W. Co. St. Car Floor Paint No. —.

Roofs.

Give three coats of S.-W. Co. St. Car Roof Paint No. —.

Trolley Poles, Fenders, Truss Rods, Air Boxes and other Metal Parts (Except Trucks) Below the Car.

Give one coat S.-W. Special Black for Iron Work."

General.

It is understood and agreed that workmanship throughout shall be first class in every particular.

List of Specialties for Street Railway Use.

CAR EQUIPMENT.

For detailed information study carefully explanatory notes in catalogue and price list, also Steam R. R. matter in this book.

Car Primer and Surfacers.
Body Colors (Including sash, trimming, lettering, etc).
Truck Color.
Rattan Seat Enamel.
Hand Rail Black.
Roof Paint.
Floor Paint.
Varnishes.

ROADWAY EQUIPMENT.

See Railroad and Street Railway catalogue and Railroad matter in this book.

Pole Paint.
Depot Paint.
Floor Paint.
Varnishes.
Bridge Paint.
Target Colors.

POWER HOUSE EQUIPMENT.

See Street Railway price list and B-24 Booklet.

Machine Paint and Fillers.
Lustral Colors.
Ajax Insulating Varnishes (clear and black).

Samples.

Samples should never be given, except when satisfied by the party's assurance or other circumstances that an honest use will be made of them without delay, and only sufficient given to make the necessary tests or trial, the matter to be closely followed up by inquiry, whether the sample has been used and with what result. Free offering of samples is hurtful, and wasteful of our goods.

*Free
samples*

Complaints regarding matching of special goods may be avoided if samples sent in conform to the following specifications. Disregard of them adds needlessly to the difficulties of the Manufacturing Department, and materially to the possibility of failure.

*Samples to
match*

First: The goods should be taken from bulk, in the form in which the goods are purchased, and should not be in the form in which they are used, unless used without change.

Second: The sample should be of sufficient size to permit of thorough investigation. Never less than one-halfpound of paste, or one-half pint of liquid goods.

Third: Samples should be so plainly and distinctly labeled as to be easily identified.

Fourth: A specific statement as to how the goods are used, or what is expected of them, carefully written out in full, should accompany each sample.

Packages.

All goods are put up regularly in sizes of packages indicated in the list. Other sizes are only put up when very large quantities of one article are ordered for one shipment, and the order must wait the convenience of the factory.

We make no charge for packages or cartage on goods of our own manufacture.

Weights and Measures.

Weight of linseed oil, United States Standard, $7\frac{1}{2}$ lbs. to the gallon; Imperial, Canada, 9 lbs.

Weight of turps, United States Standard, 7 lbs. to the gallon; Imperial, Canada, $8\frac{1}{8}$ lbs.

Size of United States Standard gallon, 231 cubic inches.

Size of Imperial gallon, 277 cubic inches.

Usual method of mixing strictly pure white lead, as described in National Lead Co.'s 1898 circular.

100lbs. White Lead in Oil	} Makes about $6\frac{1}{4}$ U.S. galls.
4 lbs. Tinting Color	
5 galls. Raw Linseed Oil	
1 pint Turpentine	
1 pint Japan	

As mixed at our 1898 Convention:

100lbs. White Lead in Oil	} Makes 6.592 U. S. galls.
4 galls. Raw Linseed Oil	
$\frac{1}{2}$ pint Turpentine	
1 pint Japan	

1 gallon of U. S. lead and oil as ordinarily mixed by painter will cover 225 square feet, two coats.

Color and Harmony.

THE following statements regarding color and harmony apply to the mixture and combinations of colors as applied to paints and painting, and not as considered scientifically.

1. The color of a substance is that color of the prismatic spectrum which it reflects to our eyes. A substance appears blue because it reflects blue rays only and absorbs all others. White reflects and black absorbs all rays.

2. The natural eye is so constructed that it is not satisfied with in-harmonious coloring.

3. The primary colors, blue, red, and yellow cannot be formed by the admixture of any other colors, while all other colors result from the admixture of these three.

4. Colors formed by the admixture of two primaries are called secondary, those formed by the admixture of two secondaries are called tertiary.

5. Harmony is an arrangement of colors in agreeable combination.

6. No precise rules for the harmonious combination of colors can be laid down, since such combination depends not on scientific deduction, but upon educated taste. The following

principles, however, are generally applicable.

7. The apparent color of any pigment depends largely on the character of the light by which it is illuminated. By a yellow artificial light, as an ordinary gas flame, or an incandescent electric light, blue appears darker, red brighter and yellow lighter than by daylight. Hence combinations which appear good by one kind of light may seem poor by another. The difference is less great between daylight and the arc light, the Welsbach gas light or acetylene.

8. The prismatic spectrum may be divided into pairs of colors which are called complementary, because when properly combined, they neutralize each other so far as the sensation of color is concerned, and produce white. (The combination here meant is not the mixing of paints, but the combining of the colors themselves, as for example, by the superposition of two colors from the spectrum.) Such pairs are:

Vermilion and bluish-green.

Orange and greenish-blue.

Yellow and blue.

Greenish-Yellow and violet.

Green and purple.

9. When any color is viewed, its complementary is induced in the eye

of the observer, and this complementary color will be cast upon whatever is near.

10. When two colors are juxtaposed, each is modified by the induced color complementary to the other.

Thus, when red and green are juxtaposed, the red appears redder and the green appears greener than otherwise, because each is strengthened by the complementary of the other. The complementary of red induced in the eye is greenish, and makes the green more brilliant. The induced complementary to green is reddish, and strengthens the red.

11. When blue or bluish-black and jet-black are juxtaposed the first may be slightly improved, while the jet-black appears rusty from the yellow, complementary to blue, induced in the eye. yellow forming with the black a rusty brown.

12. Harmonious combinations depend in general upon agreeable contrasts, or on small differences in color and upon proper proportionate amounts of the colors juxtaposed. Cobalt, raw umber and white produce a good gray.

Gray increases the brilliancy of most pure colors in juxtaposition with it, because the gray becomes tinged with the complementary color.

13. The greatest contrasts are obtained by the use of complementary tints, but these are often so strong as to be harsh. Thus blue and orange-yellow, which are nearly complementary, form a good combination, while the complementaries purple and green produce a harsh or hard effect.

14. A bad combination may often be bettered by darkening the colors considerably.

15. Green is the most difficult of all pure colors to use in combination, and must generally be darkened, or used in shades or tints bordering on other colors.

16. Small intervals of color, or different shades of the same color, generally combine well.

17. When a light and dark color are juxtaposed, the light appears lighter and the dark darker than when they are viewed separately.

18. Dark gray on white appears darker than when alone.

19. When blue or bluish-black are juxtaposed to jet-black, the first is slightly improved, while the jet-black appears rusty from the orange tint created by the eye, the other two primaries, red and yellow, forming the orange.

20. If we look upon red, green is formed in the eye, and if we look upon

yellow, purple (blue and red) is formed, the induced colors affecting those in juxtaposition.

21. Blue is a cold, receding color. Red is a warm, exciting (but stationary) color. Yellow is an advancing color.

22. Colors may be combined to produce the idea of gladness, sadness, purity, richness, poverty, etc., analogous to the sounds of music.

A Bit of History.

The Sherwin-Williams Co., was founded in 1866, the start being made in a small one story building. From this modest beginning the Company has grown steadily year by year until it now operates the largest system of paint factories and warehouses in the world.

The main offices and factories of the Company are at 100 Canal street, Cleveland. The plant at this point consists of seventeen buildings, ranging from two stories in height to seven stories. In the general offices here are also located the headquarters of the Central Division of the Company's organization, which handles the business of the Northern Central portion of the United States. The remainder of the Continent is divided into six divisions—the Eastern Division with offices in New York City and headquarters and factory in Newark, N. J.; the Western Division with headquarters and factory in Chicago, and a depot in Minneapolis; the Canadian Division with headquarters and factory in Montreal and depots in Toronto and Winnipeg; the New England Division with headquarters and warehouses in Boston; the Pacific

Division with headquarters and warehouse in San Francisco and a depot in Los Angeles; the South Western Division with headquarters and warehouse in Kansas City.

To illustrate the extent of the business of the Company it may be stated that in the year of 1902 the railroad customers on its books represented a rolling equipemnt of over 1,300,000 cars, while the entire equipment of all the railroads in the United States, Canada, and Mexico is around 1,670,000. In prepared paints for buildings and household use the capacity of the Cleveland plant alone is probably larger than the output of any other concern's entire manufacturing organization. In Quick-Drying Coach Colors, the Company's yearly capacity is sufficient to paint 1,000,000 buggies. In the item of freight car paint alone the Company's annual output would cover 350,000 cars, each one averaging about thirty-five feet long.

The Company make, treat, and refine all their own linseed oil, having their own oil mill, which is fitted out with the latest and best in everything and is probably one of the most scientifically constructed in existence. They manufacture all their dry colors; make all their driers, varnishes, and japans, operate their own tin can fac-

tory, and box factory; do all their own printing; make their own machinery; and have a screw steamer for hauling their lumber and flaxseed down the Great Lakes.

The tin can factory of the Company has a capacity of 5,000,000 cans a year. In the box departments, the mills have an annual capacity of 15,000,000 feet of lumber and a dockage front along the river of 500 feet.

There are over 135 traveling representatives constantly on the road from one end of the year to the other, and the growth of the Company is such that this staff is being increased at the rate of twenty to twenty-five men a year.

The Company has also a finely equipped export department, with a staff of foreign representatives in the field, and the same progressive methods that have made the American business so successful are bringing success abroad. The Company is making great headway in England, Ireland, Australia, South Africa, France, Germany, and in every foreign country which presents a profitable paint field.

Important.

Keep the office at all times well advised of your wire and mail address.

LIST OF
The Sherwin-Williams Co.'s
Products.

The Sherwin-Williams Paint (Prepared.)
Inside Floor Paint.
Porch Floor Paint.
Floorlac.
Crack and Seam Filler.
Floorwax.
Special Interior Colors.
Enameloid.
Creosote Paint.
Graphite Paint.
Copper Paint.
Metalastic.
Standard Paint Perfect Method
No. 5.
Roof and Bridge Paint.
Commonwealth Barn Red.
Family Paint.
Buggy Paint.
Enamel Leather Dressing.
Varnish Stain.
Flat Black Finish.
Enamel Paint.
Bath Enamel.
Bicycle Enamel.
Wagon and Implement Paint.
Screen Enamel.

Blackboard Slating.
 Aluminum Paint.
 Imperial Gold Enamel.
 Empress Gold Paint.
 Stove Pipe Enamel.
 Oil Stain.
 The Sherwin-Williams Filler
 (Liquid.)
 Shellacine.
 First Quality Oil Colors.
 French Crown Green (in Oil.)
 Prepared Graining Colors (in Oil.)
 Prepared Graining Colors (in Dis-
 temper.)
 The Sherwin-Williams Filler
 (Paste.)
 Special Paints and Colors (in Oil.)
 Metallic Brown (in Oil.)
 Ochre (in Oil.)
 English Venetian Red (in Oil.)
 Pure Colored Paint.
 White Zinc (in Oil.)
 French Zinc in Varnish.
 English Patent Dryer.
 White Lead (in Oil.)
 Distemper (Fresco.)
 The Sherwin-Williams Coach Col-
 ors (Quick Drying.)
 Perfect Method System for Carriage
 Painting.
 Gloss Colors.
 Lustral Colors.
 Bicycle Baking Enamel.

Agricultural Implement Paints and
Colors.

Telephone and Telegraph Crossarm
Paint.

Machine Paint.

Oil Proof Machine Paint.

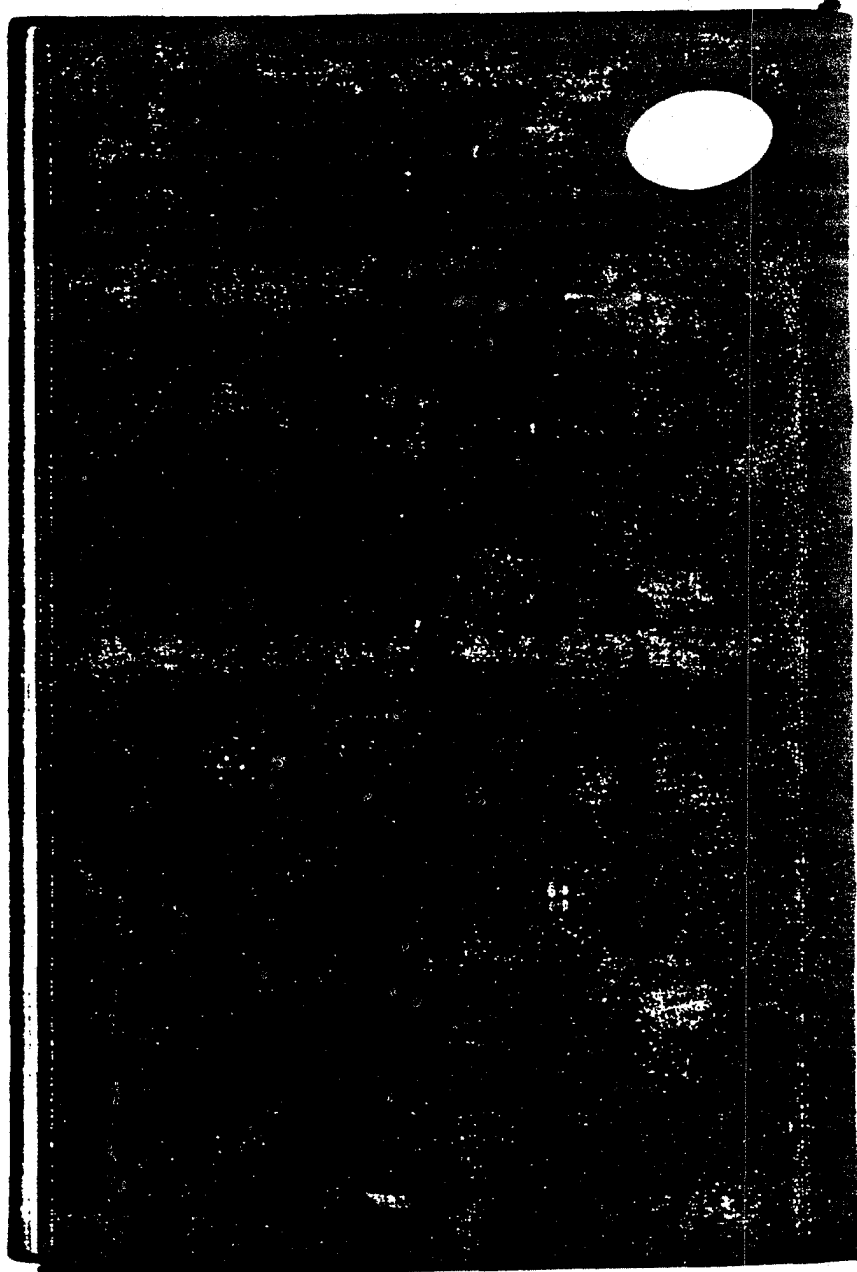
Elevator Paint.

Bedstead Enamel.

Aridos.

Petrolid.

The Sherwin-Williams Varnishes.



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