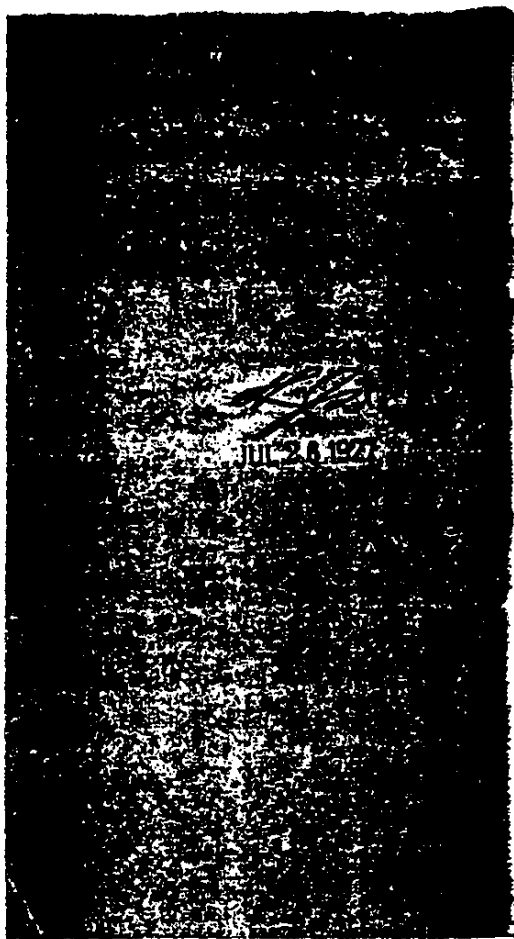




0007-SWP-000006383



The Paint and Varnish Sellers' CATECHISM

By

G. B. HECKEL

Editor, Drugs, Oils and Paints
Secretary, American Paint and Varnish
Manufacturers' Association, Inc.
Secretary Educational Bureau
Member American Society
for Testing Materials;
Member American Chemical Society;
etc., etc.

Author of A Paint Catechism for Paint Men,
A Varnish Catechism for Varnish Men,
Painting with Prepared Paints,
Why Paint Peels, etc.

Copyrighted, 1916 and 1927
By G. B. Heckel.

0007-SWP-000006384

PREFACE

This booklet has been compiled for the express purpose of helping the paint dealer to sell paint and varnish. With that purpose in view it offers, in concise language, suggestions for intelligent service.

Dealers who merely "handle" these materials because their trade demands it as a convenience, will probably not be interested; but dealers who buy paint, varnish and painting materials for the purpose of selling them for legitimate profit, may, it is hoped, gather from its pages some helpful information or suggestions.

The scope and import of salesmanship is deeply involved in this attempt to furnish sales-assistance. Successful salesmanship, in its last analysis, means simply competent service enforcing recognition. Without adequate knowledge there can be no competent service. Some of the knowledge requisite to successful service in the sale of paint and varnish is briefly indicated in the following pages.

There are days of both education and mis-education for consumers. There is a "confusion of tongues" in the hubbub of modern publicity, and in the end the consumer must depend upon his dealer for the correct interpretation of the impressions with which his mental page is overcrowded. The consumer already knows that the best guarantee of satisfaction is the name of a reputable and responsible maker on a sealed package; but regarding the selection of specific products for specific uses and the correct procedure in usage he is completely in the dark.

And just here is the opportunity for salesmanship, which we have already defined as competent service.

That this booklet may promote salesmanship of this type is the earnest hope of the compiler.

The present edition has been revised to date, and information concerning lacquers has been added.

Phila., May 1 1927.

THE PAINT AND VARNISH SELLER'S CATECHISM

1. How should you treat a customer?

As an intelligent human being with whom business is to be done to mutual advantage. The obligation is more on your side than on his. He knows what he wishes to accomplish, but relies on the seller for the technical knowledge requisite to supply the right kind and quality of goods for the purpose in view. Since he is paying for this service, one should endeavor to give him value received, by courteous treatment as well as by proper advice.

2. What should a salesman know about the goods he sells?

Everything that is necessary to make his service intelligent, helpful and satisfactory, since these are the qualifications that secure and retain patronage. He should know, in a general way, what materials are used in the paint he handles and why; the properties and qualities of the different grades and classes of varnishes as well as their uses, the correct procedure for advantageous use, etc., and, especially, he should familiarize himself with the nature and use of brushing lacquers.

3. What is paint?

A mixture of pigments and liquid vehicles intended for application (ordinarily by means of a brush) to surfaces for purposes of preservation and decoration. The simplest form of paint consists of a single pigment in linseed oil, containing also a small percentage of volatile "thinner," such as turpentine, with the necessary dryer. The higher grades of house paints, however, usually contain several pigments. The whites, for example, may contain two types of white lead, zinc oxide and a percentage of inert pigment, and the shade and tint, in addition one of several colored pigments. The object of the manufacturer is to obtain the greatest possible spreading rate, the highest effective hiding power or opacity, together with the maximum permanence of color and durability of coating.

and to secure all these qualities at a cost which will insure economy to the consumer.

4. What is varnish?

The term is a broad one, covering many varieties and classes of products; but in a general way it may be described as a liquid solution, usually transparent or translucent, though occasionally opaque, which, when spread upon a surface in a thin film, dries by the evaporation of its volatile constituents, by the oxidation of other constituents, or partly by evaporation and partly by oxidation, to a continuous protective coating, which may be either highly lustrous or practically devoid of lustre. The transparent and translucent forms are clearly differentiated, but some of the opaque forms are distinguished from paint only by their composition, the varnish in such cases containing resins or gum resins as an essential constituent. The types of varnish commonly sold by dealers are essentially solutions of gums or resins, in drying oils with drying salts and volatile thinners; such solution being accomplished by the aid of heat in a complicated series of processes.

5. What is the difference between paint and varnish?

As just pointed out, the two are not clearly differentiated in some cases. Even manufacturers confuse the terms in the case of enamels, some manufacturers designating materials which, according to our definition, are varnishes as enamel paints. This fact is unimportant if the seller keeps clearly in mind the intended use. It makes little practical difference whether an enamel be called a paint or a varnish, so long as an interior enamel is not sold for use as an exterior paint. The proper distinction between a paint and a varnish is that the latter is characterized by the presence of a gum or a resin or of some organic material so treated that it assumes the characteristic qualities of these.

6. What are the usual components of paint?

Basic-carbonate white lead, basic-sulphate white lead, zinc oxide, lithopone, inert pigments, earth

colors or natural pigments, manufactured chemical colors, linseed oil, turpentine, mineral spirit and dryers.

7. What is basic-carbonate white lead?

Ordinary white lead. Its chemical composition is indicated by its title. It is produced by two processes, the products differing somewhat in physical qualities, but essentially the same chemically. The three processes are known respectively as the "Old Dutch" and the "Quick" process.

8. What are the virtues of this form of white lead?

High opacity or hiding power and ease of working. It gives what painters call "body" or "covering," by which they mean hiding power.

9. What are its defects?

Lack of spreading power; proneness to "chalk" and dust off early; accumulation of dirt on the surface roughened by chalking; darkening in the presence of certain atmospheric gases (hydrogen sulphide).

10. What is basic-sulphate white lead?

"Sublimed white lead." Its chemical composition is indicated by the title. It is produced by sublimation and oxidation from lead ore (galena), the sublimated fume being collected in fabric bags.

11. What are the virtues of this form of white lead?

Great spreading power, good body and opacity, fineness, greater permanence of color in the presence of hydrogen sulphide.

12. What are its defects?

Tendency to chalk and some lack of opacity or hiding power as compared with basic-carbonate white lead.

13. What is zinc oxide?

What painters call "zinc" or "zinc white." Its chemical composition is indicated by the title.

It is produced by two processes—the American, or direct; the French, or indirect process. In the first, the metallic zinc is distilled from the ore and immediately oxidized by contact with air, the product being collected in fabric bags; in the second, metallic zinc is volatilized, the vapor oxidized by contact with air, and the product collected in chambers. The American process oxide is commonly employed in house paints, the French process in decorative paints, enamels, etc.

14. What are the virtues of zinc oxide?

Extreme whiteness, high spreading power, permanence of color, durability.

15. What are its defects?

Deficient opacity as compared with white lead, hardness and brittleness of the film when this pigment alone is used.

16. What is lithopone?

A combination of zinc sulphide and barium sulphate made by simultaneous precipitation from solution.

17. What are the virtues of lithopone?

Remarkable opacity, pure whiteness, excellence of body. It is the chief pigment component of interior flat wall paints and has no rival for this use. Formerly it was debarred from use in exterior paints by its property of changing color in sunlight. This defect has been removed and it is now widely used in exterior paints.

18. What is its defect?

Rapid chalking on exposure to the weather when used alone.

19. What are titanium pigments?

The base of these is titanium oxide. The pure oxide is used in lacquers and enamels. The pigment known as "Titanox" contains about 75 per cent. of barium sulphate. It is used with zinc oxide to produce very opaque exterior and interior paints. In "Calcium Titanox," the barium sulphate is replaced by calcium sulphate.

6

It is used to some extent in interior flat wall paints.

20. What is antimony oxide?

Produced by sublimation, from antimony ores, of which the supply is limited, it is an extremely white, bright pigment with excellent hiding power. Its chief use is in enamels where great fineness and whiteness are required, and to some extent in quick-drying flat wall paints. The pigment is produced chiefly in England.

21. What are the inert pigments?

Certain white or colorless and chemically inactive pigments used in combination with the chemically active colored pigments. The more important of them are silica, ashestone, barytes, gypsum (calcium sulphate), china clay (aluminum silicate), and whiting (calcium carbonate). Each of these possesses different physical characteristics, upon which its preference by the paint manufacturer depends.

22. Why are inert pigments used in paint?

Service tests, as well as practical experience, have convinced many paint manufacturers that these materials increase the service value of paints. The permissible percentage is therefore limited only by the extent to which they seriously affect the opacity of paint. Many of the chemical colors—chrome green for example—consist of a comparatively small quantity of color precipitated upon a large quantity of inert pigment; while many of the natural pigments, such as yellow ochre, consist of a little color permeating much inert material. The chief virtue of these materials is their chemical inertness. It is held by most paint authorities that because they reduce the percentage of chemically active pigments in the paint film, they add materially to its life. Some of them also, because of their form, are believed to strengthen the film, while others add the desirable brushing quality, called by painters "tooth." All available evidence tends to prove that, so far as the durability of the paint reaction is concerned, the inert pigments are beneficial.

7

23. What are earth colors?

Pigments found occurring naturally in the earth, or the same pigments modified by simple treatment. Among the former, the most important are iron-oxide reds, some mineral browns, yellow ochre, raw umber, raw sienna, which are all oxides of iron. Among the latter are Prince's Mineral, burnt umber, burnt sienna, which are produced by heating the native ores in the presence of air. (Note: The brightest of the iron reds are produced from copperas, by roasting at a high temperature. The siennas and umbers contain some manganese.)

24. What are chemical colors?

Pigments produced by chemical processes. Red lead may be classed with these, being produced by the oxidation of litharge in open furnaces. Orange mineral is a pure form of red lead, produced from white lead dross, etc. The most important of the remaining chemical colors are the chrome yellows, all essentially chromates of lead; Prussian blues, made by precipitation from solutions of alkaline ferrocyanides (yellow prussiates of soda and potash) and ferrous sulphate (copperas); ultramarine blue (artificial lapis lazuli), made by fusing together in a special furnace, china clay, sodium sulphate, sodium carbonate, sulphur, charcoal, rosin, quartz and diatomaceous earth; chrome green, made by simultaneously precipitating Prussian blue and chrome yellow on an inert pigment base; Venetian red, usually made by precipitating iron oxide from copperas liquors with milk of lime—it consists, therefore, when made in this way, of ferric oxide and calcium sulphate; vermilion (mercury), a sublimated sulphide of mercury; most of the remaining colors are made from vegetable or coal tar dyes precipitated on an inert pigment base, though some are precipitated on colored pigments, such as red lead or iron oxide. Lamp black, carbon black and gas black are practically smoke from various materials burnt for the purpose; bone black is from burnt bones; ivory black from the denser portions of the same; drop black from waste organic matters. Graphite may be either natural or artificial, in the second

case it is produced from coke in an electric furnace.

25. What is linseed oil?

An oil extracted by heat and pressure or by solvents from ground flaxseed.

26. What are the properties of linseed oil?

It is a drying oil. That is, by oxidation it is converted into a tough, elastic substance called "linoxyn," and by the addition of certain metallic compounds (lead, manganese, cobalt, etc.), this conversion is hastened. No other oil at present available in sufficient quantity has this property in so large a degree, though some possess it to an important extent, as tung oil (China wood oil), lumbang oil, perilla oil, menhaden oil, poppy-seed oil, sunflower-seed oil, soya bean oil, crude cotton-seed oil, etc.

27. What is boiled linseed oil?

Linseed oil, the drying properties of which have been intensified by the incorporation with it of metallic salts, through the agency of heat. Much boiled oil offered by second hands is merely raw linseed oil adulterated with other vegetable oils or mineral oils, to which strong driers have been added in the cold. The proper safeguard against these is to buy only the products of legitimate manufacturers.

28. What is tung oil or China wood oil?

An oil expressed from the nuts of the tung tree, which grows in the valley of the Yangtze River, in China. At present the entire supply on account of scale is imported, but the tree is being introduced on a commercial scale in our Southern Gulf States.

29. What are its properties?

It is, like linseed oil, a drying oil, but cannot be used successfully in its raw state. Properly treated, it becomes a valuable material for varnish and paint manufacture; in the latter it plays an important part in the production of flat wall paints.

30. What is turpentine?

Turpentine, in the form known as "gum spirits," is distilled from the sap of the pine tree, the residue being rosin; the form known as "wood turpentine" or wood spirit, is distilled from waste pine wood. When the latter is properly made, it is, in all essential properties, practically identical with the former.

31. What is the use of turpentine in paint or varnish?

To give fluidity for application. It is a so-called "volatile thinner," and evaporates quickly from the film applied to a surface. It thus facilitates spreading, but at the same time reduces the extent of spreading. It also assists penetration, and because it is a solvent of oils and gums, promotes the adhesion of one coat to another.

32. What is mineral spirit?

A distillate from petroleum with a boiling point higher than that of benzine. Being less volatile, it is superior to benzine for use in many grades of paint or varnish.

33. What is the use of mineral spirit?

Practically the same as that of turpentine, and for some uses it is more satisfactory. Being less expensive, it may be used to advantage in all goods where the conditions of service make it equally available.

34. What is benzine?

A distillate of petroleum boiling at a lower temperature than mineral spirit, but higher than naphtha or gasoline.

35. What is the use of benzine?

Its great volatility makes it serviceable where rapid initial "set" or drying is desired, as in stains, enamels, dipping paints, barrel paints and quick drying varnishes.

36. What are dryers?

Liquids containing metallic compounds capable of accelerating the drying or hardening of linseed

or other drying oils. They are classified as "oil dryers," containing only compounds of oil acids with the metals dissolved in linseed oil; "liquid dryers" containing turpentine, benzine or both in combination with the foregoing; "japan dryers," which contain also gums or gum resins; and resinate driers, which are resinsates of metals—usually lead, manganese and cobalt.

37. How should dryers be used?

As sparingly as possible by the consumer and only in paints mixed by the user himself from paste lead, zinc and colors. With such paints, containing zinc, only oil dryers should be used. Japan dryers should be used only where quick drying and a high lustre are required—never for ordinary exterior house painting. The percentage of dryer required depends upon the character of the paint and the temperature at the time of painting. Pure lead and oil with tinting colors requires about $\frac{1}{4}$ pint of liquid dryer to the gallon in summer, about $\frac{1}{4}$ pint in spring and fall. The addition of zinc requires additional dryer. One-half each of lead and zinc will require about $\frac{1}{4}$ pint of oil dryer to the gallon in summer and $\frac{1}{4}$ pint during the cooler seasons. Prepared or ready-mixed paints contain all the required dryer of the kind best adapted for the particular formula, and no dryer should ever be added to varnish.

38. When a consumer wishes to buy paint, what question should the seller ask him?

If the purchaser is not a painter, he should be asked:

1. For what is the paint intended?
2. Has the structure or article ever been painted or varnished?
3. If so, what is the condition of the surface?
4. If not, what is the material to be painted?
5. If wood, what wood?
6. How long has it weathered?
7. If cement, concrete or plaster, how long has it stood?
8. If tin, copper or galvanized iron, how long has it stood?

39. In each case what advice should be given?

That depends, of course, upon the answer to each question, which will indicate the particular paint to be recommended. House paint will not be recommended for a porch floor, nor for porch chairs, etc., nor vice versa. If the surface has been painted before, the advice will depend largely upon the present condition of the old paint. In general, it is always well to advise consumers to read and carefully follow directions in each case; but the following special admonitions will often prevent dissatisfaction and complaint:

1. See that all leaks in gutters, pipes, conductors and roofs are mended, all surfaces dry before beginning to paint; scrape off all loose paint and sandpaper bad spots; paint only in dry weather and never on a day following rain; if the old paint is very hard, add one pint of turpentine to the gallon of paint for the first coat; if dry and dusty or "chalking" add $\frac{1}{2}$ pint of turpentine and $\frac{1}{4}$ pints of raw linseed oil for the first coat. Before applying the first coat, touch up all bare spots with the paint and allow to dry two days before applying first coat. Begin painting on the sunny side of the house and follow the sun around the house. Use a round brush of proper quality and rub the paint well into the surface, applying with the grain, brushing across the grain and finishing with the grain. Spread the paint thin by brushing it out. Allow the first coat to dry not less than three days. For the second coat add $\frac{1}{2}$ pint of turpentine to the gallon of oil, spread as directed for the first coat. Allow three days to dry; then apply the third coat as it comes in the can. If complete detailed directions are on the can the foregoing advice may be omitted. If paint is to be applied over varnish, wash the surface with weak ammonia water; sandpaper lightly with the sandpaper; add $\frac{1}{2}$ pint of turpentine to the gallon of paint for the first coat.

2. If the painting is to be on new wood: Yellow Pine: Wash all knots and very resinous spots with turpentine first before painting; add 1 pint of turpentine and 1 pint of 62 degree benzole (solvent naphtha) to the gallon for the first

coat; in all other respects follow the directions given above. Cypress: Add 1 pint of 62 degree benzole (solvent naphtha) and 1 pint of turpentine to the gallon for the first coat, otherwise follow the directions already given. Stop all nail-holes with good putty after priming. For all other classes of wood the directions on the can will generally suffice; excepting that where new wood has not weathered, more turpentine should be used in the priming coat, and where the wood is dry and well weathered, more raw linseed oil.

3. Cement, concrete or plaster: If comparatively fresh, treat with a solution of eight ounces of zinc sulphate to the gallon of water, and allow to dry three days; or, if he makes one and recommends its use, then you should recommend the special first coater offered by the manufacturer whose goods you handle; warn the buyer against glue size, gloss oil, or cheap varnishes, not specially made for this purpose. For the first coat, thin the paint with one quart of linseed oil to the gallon, then proceed exactly as recommended for wood. If the surface is old, no preliminary treatment will be necessary.

Copper assumes a pleasing color if left unpainted, through it is likely to stain surfaces directly below it. This change can be hastened by a thin coat of raw linseed oil. No preparation is needed for painting if the surface has been exposed to the weather; if not, wash with benzine. For first coat apply the paint as it comes in the can; to the second coat add $\frac{1}{2}$ pint of turpentine to the gallon; third coat, as it comes in the can. Galvanized iron: Wash with benzine, then coat with a solution of copper acetate in water, six ounces to the gallon. Then paint as recommended for copper.

Tin (roofs, etc.): If over old paint, give same advice as for similar painting on wood; if new, wash with benzine, scrape off rosin around joints, etc.; add for first coat, one pint turpentine or benzine to the gallon. Apply two coats only, the second as it comes in the can. Repaint one coat every three years.

Brick—first coat: Add one gallon pure boiled linseed oil to each gallon of paint. Follow with three coats of paint as recommended for wood.

40. How may the seller assist his customer in the selection of paint or varnish?

By explaining that value is not measured by cost, but by service. Actual cost is to be measured by relative length of service. Goods costing the consumer, for instance, \$2.50 per gallon may last, let us say, two years, while goods costing him \$5.00 per gallon may last five or ten years. The low-price goods will then cost him \$1.25 per annum (not to mention cost of renewal), while the higher price goods will cost \$1.00 or 50 cents per year, according to circumstances.

In every case where durability and appearance are important the better grade varnish is far cheaper in the long run than the poorer grade which may be cheaper per gallon. This is strictly true in every case, from a chair or a door to a paneled dining room.

The labor of application is, however, always the most important cost-factor, and on this account the better grades of goods are always infinitely less costly to the consumer than cheaper, poorer grades. The sale of the latter generally reflects discredit on the seller, while the satisfaction resulting from the use of the former leads to confidence and continued patronage.

41. How may women customers be helped?

Women naturally know little of materials or the technique of application. They have very definite ideas of the effect desired, but little comprehension on the means required to produce it. Start then by ascertaining what the customer wishes to accomplish, and base your recommendation upon this information. Women are usually very vague on methods of application. Advise against the use of a rag and furnish a suitable brush for paint, enamel, varnish, varnish stain, etc. If she buys two or more colored materials, ascertain if they are to be used side by side and assist her in the selection of pleasing color harmonies or contrasts. Unless trained she is likely to select the individual colors that please her without regard to the laws of color harmony. Advise her to close packages

tightly after use to prevent skinning, thickening and evaporation. This advice will also, to some extent, guard against the use of improper thinners. Brushes are also important. To most women a brush is a brush. Help her to select the right one and explain why it is right. It is needless to remind the salesman that unflinching patience and courtesy are essential; to a gentleman all women are "ladies."

42. What should be said to a consumer who asks for a gasoline torch?

Suggest that as its use is dangerous and violates insurance policies, and that it would be safer and wiser to entrust the job of burning off paint to an experienced painter.

43. What to a man buying paint and varnish remover?

That he follow directions carefully, ventilate thoroughly while using, have no fires nor lights burning and that he take particular care to remove with benzine all traces of the old finish and of the wax left by the remover before applying paint or varnish.

44. What to a man buying dryer?

Ask him for what use it is intended, warn him against adding it to varnish, caution him to use it sparingly in any case, and recommend the proper type of dryer for the intended use—an oil dryer, if for a zinc paint; a liquid dryer, if for other paint; or a high-grade japan dryer, if for porch chairs, etc. Further, it will always pay to recommend a good grade of the right dryer, rather than a cheap (and poor) grade.

45. What to a man asking for coal oil, benzine, etc.?

Ascertain the proposed use, and if for thinning, warn against such use and call attention to the directions on cans.

46. To a man requiring varnish?

Ascertain the use to which the goods are to be put and recommend the type of varnish proper for such use. Don't sell him furniture varnish

for a floor, interior varnish for a front door, nor rubbing varnish for a boat. If the temperature be low, ask about the temperature of the room in which the varnish is to be used, recommend warmth and ventilation; if at the house-cleaning season, caution him against dust; lay stress upon the importance of a thoroughly clean and dry surface; recommend washing with neutral soap or benzine, if necessary, and thorough subsequent drying. Inquire as to the kind of finish desired, and if rubbed or egg-shell, recommend him to employ a wood finisher; if flat, supply a flat-drying varnish or a wax finish.

47. What if he asks for floor varnish?

Call particular attention to the directions on the can and inquire as to the material and condition of the floor. If white birch, white pine or a similar very light-colored wood, recommend a very thin coat of white shellac as a first coat (white shellac varnish thinned with about an equal volume of denatured alcohol), to prevent the floor varnish from darkening the wood; tell him to begin at the far side of the floor and work towards the door; to see that the room is warm and dry, but well ventilated; to apply two coats of varnish over the shellac, allowing each coat ample time to dry hard. If an open grain wood, like oak, etc., explain the necessity of filling first with paste filler. Call attention to the directions on the filler can and lay particular stress on the necessity of rubbing off surplus filler across the grain, within fifteen or twenty minutes after applying. Recommend three coats of varnish for such work. Ask whether natural finish or a stained effect is desired and supply the proper filler accordingly.

If a cheap finish on soft wood is desired, call attention to the liquid fillers and special colored varnishes; two coats of the latter may be desirable in some cases, finished with one coat of high grade clear floor varnish. If an old floor, with cracks and crevices, recommend a crack and crevice filler and call attention to the necessity of priming the floor before using this filler. If the wood of the floor be stained and discolored,

recommend preliminary washing with a solution of oxalic acid, followed by careful washing with weak ammonia water and complete drying. If he wishes to revarnish an old floor, tell him that spots that have been worn through cannot be concealed by revarnishing—the old varnish must all be removed if he demands a perfect job. Tell him to wash the surface with weak ammonia water, sandpaper lightly all over and apply one or two coats of varnish, according to circumstances. If for a painted floor, tell him to repaint first, allow the paint to dry hard, then varnish.

48. If he asks for liquid filler?

You should know the nature of the filler you handle. Explain to him that it is intended for use only on close-grain soft woods; open grain hardwoods requiring paste filler.

49. If he asks for shellac?

Advise against its use, except for thin undercoating on very light woodwork, and minor dull finishing. For most uses a proper varnish is far superior. Explain dangers attending its use; turns permanently white when wet; is brittle and easily shows dents, heel marks, etc. For finishing surfaces not subject to abrasion or moisture, however it provides a satisfactory finish. For knot stopping, though shellac is widely used, washing with turpentine just before painting is preferable. Special knotting primers are made by some manufacturers. Recommend these if you carry them in stock.

50. If he asks for shingle stain?

Ask whether the surface to be stained has ever been painted. If so, explain that these stains are designed for use on bare wood, and that all paint should be removed before applying them. Ascertain how long the lumber has been weathering and advise him accordingly, as the directions on the can are intended for new wood. Call his attention to the fact that stains are transparent or translucent and intended to show, not to hide, the grain of the wood.

51. If he asks for enamel?

Is it to be used on the exterior or the interior? If the former, sell a product intended for the purpose. If the latter, what is the nature and condition of the surface to be enameled? Has the surface been finished before and how? Proper preliminary treatment should be prescribed according to requirements. If the surface requires filling and leveling, the methods should be explained. If the undercoat is paint, removal may be necessary, involving the purchase and use of "remover," scrapers, etc., and careful directions for washing off remover wax before applying the first coat. Sandpaper and steel wool may also be requisite. Recommend a special enamel "under coater," made for the purpose. If economy is necessary, suggest the use of flat wall paint for undercoats.

52. If he asks for putty?

Tell him that putty is the cheapest of all painting materials; that the best putty consists of whiting and raw linseed oil; that is the only satisfactory kind of putty for his use; that the difference in price between the best and the worst is but a very few cents per pound and that any possible saving is not worth the risk of the putty's remaining permanently soft, or crumbling, or staining the panit, or causing the latter to peel. If you handle white lead putty, explain its superiority for those uses.

53. If he asks for red lead?

Explain the necessity of mixing "on the job" and applying within a short time after mixing. Tell him that if he lets it stand for any length of time (a day or two) after mixing, it may "liver" (thicken) and lose its value as paint. Sell him him only pure red lead. If you carry ready-mixed red lead, these precautions will, of course, be unnecessary.

54. If he asks for "oil"?

Ascertain the use and recommend accordingly a raw oil or a boiled oil—the latter seldom and for very few uses to a consumer. Don't handle

or have anything to do with "doped" raw oils or "bung hole boiled" oils. It is not fair to the customer who buys them nor to the paint manufacturer with whose products they are used. If the customer says he can buy oil cheaper from some one else, call his attention to the fact that the price of linseed oil is as standard as that of flour, salt or sugar, and that no dealer can afford to cut these prices on pure oil. When the price of oil is high the market is flooded with oils "doped" with petroleum or with cottonseed oil, corn oil, etc.—all non-drying oils are positively injurious when added to paint after manufacture. The customer will think twice about saving a possible five cents per gallon on his oil, if it means that it will ruin \$50.00 or \$100.00 worth of good paint. Finally, place yourself in such position that you can safely guarantee the purity of the oil you handle.

55. If he asks for hard oil finish?

Explain that the term no longer applies to any definite product, so-called "Hard Oil Finishes" being of all qualities at all prices. Ascertain the intended use and recommend a good varnish suitable for that use.

56. If he asks for "furniture varnish"?

Explain to him the necessity of washing the surface with turpentine or benzine before varnishing; and the danger of piling on too many coats. Also explain to him (or her) that varnishing a surface will not clean it. Finally, point out the necessity of a good grade of varnish which will not easily spot or mar.

57. If he asks for "sepal varnish"?

Explain to him that this term has no longer any practical meaning; that formerly all varnishes made with fossil gums were so designated; that at that time there were very few types of varnish in the market, whereas to-day there are many varnishes specifically adapted for innumerable uses, and sell him the varnish best adapted for his present purpose.

58. If a painter asks for "zinc"?

You should carry in stock for the use of your painter trade at least two kinds of paste zinc in oil, Pure French Process Zinc and Pure American Process Zinc, and you should insist that your manufacturer supply you with them and guarantee their freedom from inert reducing pigments, like barytes, silica, etc. The painter who uses "French Zinc" uses it as a decorative paint, because of its extreme purity of color. Its efficiency in this respect is directly proportional to its color-body or tinting strength, and while the presence of inert pigments in proper percentages may enhance the service value of a protective paint, in a paste zinc, such as we are considering, they have no proper place, since in this case they merely reduce the tinting strength. In American Process Zincs there is no reasonable objection to the small percentages of lead sulphate, which some of them naturally carry, since neither their quality as paint nor their opacity is diminished thereby; but these zincs are used by the painter for mixing with his paste lead to improve its appearance and wearing properties. He has usually very definite ideas about the percentage he wants, and the presence of the inert, without his knowledge, reduces this percentage and defeats his purpose. It will probably not injure the paint as paint; but if the paint "goes wrong" from any cause, investigation will disclose the fact that the zinc was not as represented, and you will have no defense. If you sell "reduced" zincs, explain the fact to the painter and suggest a corresponding increase in the percentage used. His only possible reason for buying such zinc would be its price, and if he must use more of the lower price material to obtain what he requires, he will easily be convinced of the wisdom of buying the pure zinc.

59. If a consumer asks for porch chair paint?

Sell him a hard-drying varnish paint intended for the purpose. Any good exterior paint will do if a proper varnish is added to it, but paint made for the purpose with a good hard-drying

exterior varnish will be much more satisfactory. If ordinary exterior paint is used, it must be protected with exterior varnish as a safeguard to clothing.

60. If for "cold-water" or "hot-water" paint?

Explain that these products are little more than improved kalsomines, the latter being improvements on whitewash; that they have no great value as protective paints and that they are not very permanent as decorative paints. If advisable in any given case, recommend and explain the desirability of substituting a flat, washable wall paint.

61. If for porch floor paint?

Sell him only a paint made for the purpose. Ordinary house paint is not intended to resist severe abrasion.

62. If for paint to be used on cement or concrete?

Tell him to treat the surface first with the sulphate of zinc wash recommend for plaster walls (zinc sulphate in four times its weight of water). Then, after allowing to dry thoroughly, to paint with ordinary good quality exterior house paint. If you handle a cement or concrete paint you will naturally recommend that as well as the primer furnished with it, but it is well even then to recommend the zinc sulphate treatment as an extra safeguard. Point out the importance of giving the cement at least six months to dry and harden thoroughly before painting, and then to paint only in dry weather after a "dry spell."

63. If he asks for a brush or brushes?

Ascertain the intended use. Explain the worthlessness of a poor brush, sell him one proper for the purpose, and explain its use method of cleaning and care.

64. If he requires interior flat wall paint?

Explain its various uses and caution him against the use of improper thinners. Learn the nature and condition of the surface and ad-

wise accordingly. If new plaster, recommend a wash of zinc sulphate solution, one pound to the gallon, with 24 hours for drying before application of paint. Caution him emphatically against glue, soap or alum sizes, and if a size is necessary, sell him a good varnish size (not a gloss oil) or undercoater made for the purpose. Insist on the necessity of at least three coats. Sell him the proper thinners and tell him you will not be responsible if he uses anything else. If the wall has been papered, urge thorough drying before application of paint. If the paper be firmly adherent, the paint may in some cases, be applied directly thereto, without removal. Explain how a painted wall may be washed by the careful use of a neutral soap, a soft brush and a sponge; or by a mixture of soap solution and glue made by dissolving white glue in boiling water and Ivory soap in another mixture of water, then thoroughly mixing the two solutions.

65. If he asks for furniture polish or varnish?

Tell him to wash the surface lightly with a rag dipped in turpentine or benzine before application.

66. If he asks for varnish stains?

Inquire the intended use and advise accordingly. If over a varnished (or grained surface) tell him to wash with benzine and lightly sandpaper, then follow instructions of the can.

67. If he asks for stains?

Ascertain the intended use and advise accordingly. It is very difficult for a novice to get good results with water stains. These, as well as oil stains and turpentine stains, should be used only on new wood. They must be applied evenly, or they will show "laps" and give irregular coloring. They "raise" the grain, which must be lightly sandpapered off before varnishing. If only one coat of oil or turpentine stain is to be applied, the addition of about 20 per cent. of benzol (solvent naphtha) will assist penetration and produce a more even color. Warn the customer that such stains can not be used on a sur-

face that has already been painted, varnished or enameled. In such cases a varnish stain must be used. This may require the preliminary application of a ground color. (See question No. 50.)

68. If for liquid bronze, etc.?

Advise against its use for radiators, since enamels and flat paints permit the radiation of about 25 per cent. more heat.

69. What about inflammable vapors?

All paints, oils and varnishes and lacquers are inflammable under certain conditions, but most of them not dangerously so. The volatile thinners, turpentine, benzine, alcohols, acetone, etc., are also more or less volatile at moderate temperatures and their vapors are inflammable. It is, therefore, a humane duty that the dealer explain to the ignorant purchaser the necessity of caution in the handling of goods containing them. Apartments should be well ventilated during their application, artificial light (excepting electricity) should not be brought near them when open, matches should not be struck in their vicinity; and fires should not be lighted in rooms adjoining that in which they are being used. Furthermore, most of these vapors are to a greater or less extent unwholesome, so that thorough ventilation is also a sanitary precaution. Incidentally, both paint and varnish, in drying, give off highly disinfectant vapors.

70. Should one guarantee paint or varnish?

Goods are sold under a moral guarantee and no further guarantee should be given or required. To explain: whether specifically stated or not, it is to be assumed that, if properly used under all proper conditions, the manufacturer guarantees his products to give reasonable service; but you have absolutely no control over any of these conditions, therefore it is the height of folly to give any guarantee other than of value and quality. Failure and complaints will be best guarded against by careful instructions and admonitions at the time of purchase.

71. How should complaints be treated?

With patient consideration and courtesy. Ascertain the exact nature of the trouble, examining the work, if necessary. If no cause for the defect or failure can be traced, the matter should be referred to the manufacturer. You can, however, in the majority of cases settle such cases yourself by tracing the trouble to its cause. This can usually be accomplished by a little friendly "cross-examination."—"Did you read and follow the directions on the can?" "Did you remember and follow my advice?" (Recall this advice, item by item). "Did you use a fresh brush?" "Did you add anything to the paint or varnish and, if so, what?" "Where did you buy it?" "Can you give me a sample of it?" "How was the weather before, during and after application?" "What was the surface and what its condition?"—The answers to these and similar questions will, nine times out of ten, place the blame where it belongs, and that being settled and acknowledged, you should be able to retain the customer's confidence while freeing yourself and the manufacturer from responsibility.

The ordinary types of paint failure and their causes are treated in the author's "Paint Catechism for Paint Men," and varnish troubles in "A Varnish Catechism for Varnish Men," which the salesman may consult in case of necessity.

One paint defect not mentioned therein may properly be touched on here. This defect is known by painters as "washing"—the paint film appears to become soluble and the pigment washes off. While the causes are not yet exactly determined, the danger of washing can be largely avoided by using only a high-grade linseed oil and pure turpentine for thinning, and being particularly careful to avoid moisture—in other words, to paint only on dry surfaces in dry weather. If this latter precaution be not observed, apparently, almost anything may happen to the paint.

72. Should the seller attempt to influence the buyer as to the quality of his purchase?

You know that in a general way, the quality of paints and varnishes is indicated by their

relative prices and that a difference of a few cents per gallon, while amounting to but little in the total cost of a job, amounts to a great deal in the satisfaction and service rendered. Where there are such important differences it is to the interest of your customer as well as that of your firm to explain them and endeavor to supply the better grade of goods. The cost of the paint or the varnish on any job is but a small fraction of the cost (in time or money) of preparation and application, and it costs as much to apply poor materials as to apply the best, therefore the best is always the cheapest. To illustrate: if a customer needs 10 gallons of paint and one kind will last five years and the other only three; it will pay him well to buy the first, even though it costs him fifty cents more per gallon. Assume the cost of the time or labor for application to be \$60.00, one paint costing \$2.50 and the other \$3.00 per gallon. Then for the first five years he will have paid—

For paint twice	\$25.00	\$50.00
For labor twice	60.00	120.00

\$170.00

For the second, in five years, he will have paid—
For the paint once.....\$30.00
For the labor once.....60.00

\$90.00

a clear saving of \$16.00 annually; and this ratio of saving will hold for ten, fifty or a hundred years.

73. Why should not the same varnish be sold for different purposes?

"Varnish" is a broad term, covering a variety of products with widely differing qualities. Floor varnish, for example, is made to be walked on. It must, therefore, not only be lustrous, but tough and elastic and at the same time, hard. Exterior varnishes must withstand rain and sun, heat and cold. They must, therefore, be extremely resistant to these influences. A rubbing varnish must be sufficiently brittle to abrade when rubbed with pumice, rotten stone, whiting, etc.:

but must at same time be hard and resistant. These qualities are evidently exactly the opposite of those required in a floor varnish. An interior varnish must be lustrous and must resist abrasion, but is not exposed to the action of the weather. It should dry in a reasonably short time and need be neither very tough nor very elastic. This brief resumé will show how important it is that the varnish shall have the qualities required by its purpose, and why one varnish should not be recommended for different uses— unless specifically so intended by the manufacturer. There are nevertheless some so-called "all-purpose" varnishes which are satisfactory for many household uses. If you carry such a varnish, study its limitations.

74. How may a dealer increase his sales of paint and varnish?

This is the vital question. It is partly answered in all the preceding paragraphs, which, one and all, suggest intelligent service. The remainder of the answer is "intelligent enterprise." A retailer may be either a "storekeeper" or a salesman. The storekeeper is one who *keeps* a store or stock of goods; the salesman is one who *sells* them. The manufacturer does not "keep store"; he utilizes every known means to get his products where they belong—on surfaces requiring protection or decoration, and in the effort to get them there, through you, offers you every conceivable sort of assistance. It is up to you to utilize what he provides—to get it into the hands for which it is intended. Here is a concluding suggestion, quoted from a talk to a gathering of dealers at the University of Minnesota:

I suppose that after all is said and done, the dealer, like the rest of us, will develop, as the botanists say, "true to type." The man who cultivates a pleasure in his business, as the man who cultivates a love for family and home, will be ever on the lookout for means of improvement; while the man who sells goods reluctantly, because he has to make a living, will view with disdain or resentment any suggestion that involves more thought or more work. If you are

contented to let people in need of paint find your store and come into it, doubtless you will be able to sell them the paint they need if they need it badly enough. But this is neither salesmanship nor service. True salesmanship is the service that points out to unsuspecting people unrecognized wants, and serves them by the cheerful gratification of those wants. John Jones will not realize that his roof will last ten times as long if painted unless you tell him so; and he won't believe you to the extent of the necessary price unless you can prove it. Jim Smith won't know that he ought to repaint his house before it begins to look shabby unless you tell him so and give him good reasons. Ole Oleson won't think it at all necessary to paint his concrete silo until you show him that it will pay him to do so.

Probably ninety per cent. of the 400,000,000 to 500,000,000 gallons, more or less, of paint and varnish annually consumed in this country is used in repainting. Good paint, properly applied, three coats at the start, should ordinarily remain in efficient condition for at least four years. Then it should be repainted. Tin roofs, which should properly receive two coats at the start, should have a fresh coat applied every two or three years.

We will assume that you are all "on the job" when paint for a new building is in prospect. In most localities all the dealers are so thoroughly awake in such cases that nobody makes anything out of it. But assuming that you have sold the paint for this new building, or for an old one, for that matter; what do you do after that? In two or three years, if a tin roof, in three or four or five years, if a building or a shingle roof, that property ought to be in the market for more paint. Do you, at the psychological moment, call the owner's attention to the fact? I think I would. If I were a paint dealer I think I would have a card index recording kind and quantity of material and purpose for which it was used. Then, at the end of, say, one year, would send the purchaser a friendly follow up letter, something like this:

"DEAR MR. JONES:

"A year ago we had the pleasure of telling you our gallows of 'Validity' paint for your home. We trust that it has given you entire satisfaction, as we could not hope to retain your esteemed trade unless we can give you satisfactory service."

"We should be very glad to know how the paint has pleased you and to be at your service for anything you may now require in the same line. We take the liberty of enclosing some literature in which you may possibly find something to interest you at this time."

At the end of the second year I would remember Mr. Jones again. The wording of my letter would be different, but the main point would be served by proving to Mr. Jones that his custom was valued and that I had not forgotten him.

At the end of the third year I would go at him again, but this time with a view to getting results. My letter would be along the following lines:

"DEAR MR. JONES:

"It is now three years since we were favored with your order for our 'Validity' paint. As we have not heard from you regarding material for repainting, we assume that the paint is still in good condition. We write now only to caution you that to keep a painted house constantly in good condition, the repainting should be done before the paint begins to show serious signs of failure. Good paint should normally not require renewal more than once in four or five years, but ordinarily it is unsafe to neglect any paint beyond the four-year limit."

"We suggest that you carefully examine your paint to see if it can safely be used another year. One of our people who knows something about paint will run out to look over it with you if you wish."

It is needless to follow this suggestion further; but I am confident that if put into systematic operation in any paint store it would cinch and hold a good deal of the trade that somehow gets away from you in the long period of waiting between painting and repainting.

In conclusion I want to leave with you one more suggestion: There should be some one in your employ who knows a good deal about paint—an intelligent man who will not sell a lady cheap furniture varnish to varnish her floor, or roof paint for painting porch floors; somebody that knows enough about the properties and qualities of painting materials to forestall the

mistakes and misuses which are the fertile mother of claims, complaints, "come-backs", and lost customers.

During most of the past decade there has been available to dealers a powerful aid to the sale of paint and varnish—the "Save the Surface" Campaign. The attitude of the property owning public towards paint and varnish has been revolutionized by the advertising and other publicity of this campaign. Are you familiar with it? Do you utilize its service? Do you "tie in" with it? If not you are overlooking something that has certainly helped you generally even though you may not have realized it, and could help you much more individually if you took advantage of the co-operation it offers. "Believe me," it is worth your earnest consideration!

LACQUER SECTION

75. What are Lacquers?

The term "Lacquer" was originally used to designate any rapidly drying transparent finish used to protect metal articles. These were usually quick air-drying spirit varnishes or baking oil varnishes; though solutions of nitro-cellulose in amyl acetate, etc., have also been used to some extent for many years. The term as now understood, however, applies generally to solutions of nitrocellulose in a mixture of solvents, with the addition of various oils, gums, etc., and non-volatile mutual solvents for the "solids," known as plasticizers.

76. What is Chinese Lacquer?

The sap of a tree (*Rhus Japonica* or *Rhus Vernicifera*) closely allied to our common "poison ivy" (*Rhus toxicodendron*). It is collected and used almost exclusively in the Orient for the ornamentation of articles of " vertu." The lacquer itself causes acute skin poisoning in susceptible persons, and even the lacquered articles have been known to have the same effect. It dries slowly and only in the dark and in a moist atmosphere. It has no relation to pyroxylin lacquer and is not used in America.

77. What is Pyroxylin?

The name was originally applied to the soluble nitrocellulose used in the preparation of collodion for coating photographic plates and later in the celluloid industry. It is now used interchangeably with the term "nitro-cellulose." Its chief constituent is cellulose, which is found in its purest form in cotton fibre. It is a complex composed of carbon, hydrogen and oxygen in the proportion of 6, 10 and 5 atoms respectively. In order to differentiate it from the explosive form of nitro-cellulose (gun cotton) the non-explosive form of nitrocellulose is preferably called "soluble cotton."

78. What is Nitrocellulose?

Chemically a nitric acid ester of cellulose—an "ester" being a chemical compound in which a hydrocarbon replaces a part of the hydrogen of an acid. There are many recognized nitro-celluloses, ranging from about ten to twelve per cent in nitrogen content. They are prepared by treating cellulose (cotton) with nitric and sulphuric acids; the chief function of the latter acid being to remove moisture.

79. Is Nitrocellulose explosive?

This depends entirely upon the extent of "nitration." Those esters containing the higher percentages of nitrogen are highly unstable, and therefore explosive on percussion. Those containing lower percentages of nitrogen are more stable and while inflammable, are not explosive. The nitrocellulose used in the manufacture of lacquers are of the latter type. In untechnical language nitro-cellulose is cotton or cellulose to which nitrogen has been added by a chemical process.

80. Is Lacquer Explosive?

Lacquer is inflammable but not explosive.

81. How many forms of Lacquer are there?

There are many forms and varieties, depending on the knowledge and skill of the manufacturer; but, broadly speaking, they may be

divided into two classes, "spraying lacquers" and "brushing lacquers." Spraying lacquers may be further subdivided into clear lacquers and pigmented lacquers.

82. What are Spraying Lacquers?

Lacquers, which because of their rapid drying, are usually applied with spray-painting machines. They are of heavy body and contain high percentages of nitrocellulose. They are not commonly handled by paint dealers.

83. What are Brushing Lacquers?

Lacquers usually containing some resin and pigment. They are designed for application, like ordinary paints and varnishes, with a brush. They ordinarily contain less nitrocellulose than the spraying lacquers.

84. What are Pigmented Lacquers?

Lacquers to which color, and usually opacity, is imparted by the addition of pigments.

85. What solvents are used in the manufacture of Lacquers?

The most important are butyl acetate, butyl propionate, ethylene and propylene, xytol and glycol ethers, amyl acetate, ethyl lactate, ethyl acetate, butanol, ethyl alcohol and toluol. The latter, however, is rather a diluent than a solvent. They are mostly alcohols treated with acetic, lactic or other acids.

86. What are Plasticizers?

Pyroxylin alone, produces a rather brittle film. Plasticizers are added to give it flexibility, elasticity and durability. The camphor used in celluloid is a familiar example. Tri-cresyl phosphate is widely used as a plasticizer.

87. What Plasticizers are used in Lacquers?

Among the plasticizers that have been widely used in lacquers are tri-cresyl phthalate, diamyl phthalate, etc. Tung oil, and to some extent linseed oil, products have been used in lacquers, and they give to the film some degree of plas-

ticity. As a rule, however, these do not mix as well with nitrocellulose as the organic plasticizers referred to above. Most resins are not plasticizers.

88. What is the difference between a Spraying Lacquer and a Brushing Lacquer?

The main physical difference is in slower drying and relatively lower solubility for preceding coats, in the case of a brushing lacquer. A brushing lacquer may be regarded as a compromise between a spraying lacquer and an ordinary oil varnish or enamel.

89. What are Lacquer Thinners?

"Thinners" are proper mixtures of solvents supplied with the lacquer to thin the lacquer to working consistency, to replace evaporation and to clean spray guns, brushes, etc.

90. Is Lacquer durable?

Much furniture, nearly all automobiles and a great variety of other familiar products are now finished with lacquer. Properly manufactured and properly used, lacquer is very durable, but it is capable of manipulation and adulteration, with disastrous results.

91. Are Lacquered Surfaces readily marred?

Pigmented lacquered surfaces are usually remarkably resistant to abrasion or to marring by any agency. Clear lacquers on wood generally require the same care as varnished surfaces.

92. How are Lacquer Coatings removed?

By first spray-misting the surface with lacquer thinner, and then refinishing in the usual manner.

93. How may a Lacquer Coating be removed?

Lacquer solvents will redissolve the dry coating, and some of the varnish removers containing acetone, benzol, etc., can also be used for the purpose.

94. Are Lacquers suited for exterior use?

On rigid metal surfaces they are very durable, but on wood, subject to continual expansion and contraction due to absorption and evaporation of moisture, they have proved less satisfactory. This difficulty will, however, probably be overcome by the development of suitable sealing primers or by other means. Lacquer itself is practically impervious to moisture.

95. What information should be given a consumer when buying Lacquer?

Since this is a comparatively new product and its application and handling are entirely different from the familiar procedure with paint and varnish, you should familiarize yourself with the literature furnished by the manufacturer, carefully instruct the buyer in accordance therewith, and caution him or her to study and follow directions. If brushing lacquers are applied, according to these directions, there is no particular difficulty in obtaining satisfactory results. Since the odor of the volatile ingredients is objectionable to some people, it is well to suggest that movable objects be lacquered in the open and in any case that windows be left open during the process. Further, since these volatile ingredients, like the volatile ingredients of paint and varnish, are inflammable, the buyer should be cautioned against working in a room where there is an open flame or fire.

To repeat, for emphasis: familiarize yourself with your goods before you attempt to sell them, and thus, avoid complaints and trouble.

INDEX

A	
Adulterated Linseed Oil	9
Advice to Women Customers	14
Advice to Paint Consumers	11
Aluminum Silicate	7
Antimony Oxide, What is?	7
Application of Paint or Varnish, Cost of	14
Are Lacquers Suited for Exterior Use?	23
Ambesine	7
Assistance to Consumer in Selecting	14
B	
Barites	7
Basic Carbonate White Lead	5
Basic Sulphate White Lead	5
Benzine	10
Black, Carbon, Bone, Drop, Ivory, Gas, Lamp	6
Blues, Prussian	6
Blue, Ultramarine	6
Boiled Linseed Oil	9
Bone Black	6
Bricks, Painting	13
Brown, Mineral	6
Bronze, Liquid	22
Brushes, Advice to Consumers	21
Burning Off Paint or Varnish, Advice	15
C	
Calcium Carbonate	7
Calcium Sulphate	7
Carbon Black	6
Cement, Paint for	21
Cement, Painting on	13
Chair Paint, Porch	20
Chemical Colors	7
China Clay	7
China Wood Oil	9
Chinese Lacquer, What is?	23
Chinese (Mercury) Vermillion	7
Chrome Green	7
Chrome Yellows	9
Cleaning Painted Walls	21
Coal Oil, Advice to Consumers	15
Cold Water Paint	21
Colors, Chemical	6
Colors, Earth	6
Colors from Dyes	6
Components of Paint, Usual	4
Complaints, Treatment of	24
Concrete, Paint for	21
Concrete, Painting on	13
Consumer, Advice Concerning Brushes	21
Consumer, Advice Concerning Coal Oil, etc.	15
Consumer, Advice Concerning Dryers	15
Consumer, Advice Concerning Enamels	18
Consumer, Advice Concerning Flat Paint	17
Consumer, Advice Concerning Floor Varnish	18
Consumer, Advice Concerning Liquid Filler	17
Consumer, Advice Concerning Shingle Stain	17

Consumer, Advice Concerning Stains	21
Consumer, Advice Concerning Varnish	15
Consumer, Advice Concerning Ventilation	23
Consumer, Assistance in Selection	14
Consumer Buying Paint, Questions for	11
Consumer, Demonstration of Economy	24
Consumer, Following Up Sales to	26-28
Consumer, Paint, Advice to be Given	11
Copal Varnish	19
Copperas Reds	3
Copper, Painting	13
Cost Not Synonymous with Economy	14
Cost of Application	14
Cost of Paint or Varnish	14
Cotton-seed Oil	9
Customer, Information given When Buying	23
Lacquer	3
Customer, Treatment of	3
D	
Drop Black	3
Dryers	10
Dryers, Advice to Consumer	15
Dryers, Japan, Liquid, Oil	11
Dryers, Use of	11
Dyes, Colors from	6
E	
Earth Colors	6
Economy in Quality	24
Enamel, Advice to Consumer	18
English (Mercury) Vermillion	7
F	
Filler, Hard Wood (Paste)	17
Fillers, Liquid, Advice to Consumer	17
Fish (Menhaden) Oil	6
Flat Wall Paints	6
Flat Wall Paints, Advice to Consumer	21
Floors, Cleaning Before Varnishing	16
Floors, Finishing Oil	16
Floors, Painted, Varnishing	16
Floors, Refinishing	16
Floors, Varnishing	16
Floor Varnish, Advice to Consumer	16
"Follow-up" Letters	26
"French Zinc"	20
Furniture Polish or Varnish	22
Furniture Varnish	19
G	
Galvanized Iron, Painting	13
Gas Black	6
Gasoline Torch	13
Goods, What Should a Salesman Know About?	3
Green, Chrome	6
Graphite	6
Guaranteeing Paint or Varnish	23
Gum Turpentine	10
Gutters	12
Gypsum	7

H	
Hard Oil Finish	18
Hard Wood Floors, Finishing	18
Hard Wood (Paste) Filler	18
Hot Water Paint	21
How are Lacquer Coatings Renewed?	22
How May a Dealer Increase Sales?	22
How May Women Customers Be Helped?	14
How Should One Treat a Customer?	2
I	
Inert Pigments	4
Inert Pigments, Why Used in Paint	7
Iron, Galvanized, Painting	11
Indefinite Vapors	22
Iron Oxide Reds	2
Ivory Black	2
J	
Japan Dryers	11
K	
Knotting Primers	17
L	
Lacquer Coatings, how Renewed?	22
Lacquer, How Many Forms are There?	26
Lacquer, Is it Durable?	22
Lacquer, Is it Explosive?	20
Lacquer Section	18-22
Lacquered Surfaces, are They Readily Marred?	22
Lacquers, are They Suited for Exterior Use?	23
Lacquers, What are?	23
Lacquers, What are Brushing?	31
Lacquers, What are Pigmented?	31
Lacquers, What are Spraying?	31
Lacquer, What are Thinners?	32
Lacquer, What Information Should be Given a Customer When Buying?	23
Lacquers, What Plasticizers are Used in?	31
Lacquers, What Solvents are Used in the Manufacture of?	31
Lamp Black	20
Lead Zinc	12
Leads	12
Linseed Oil	2
Linseed Oil, Adulterated	2
Linseed Oil, Boiled	2
Linseed Oil, "Bung-Hole Boiled"	18
Liquid Bronzes	22
Liquid Dryers	10
Liquid Filler, Advice to Consumer	17
Lithopone	2
Lumbang Oil	2
M	
Manhaden Oil	2
Mineral Browns	2
Mineral Spirit	10
Mineral Spirit, Use of	10
N	
Nitrocellulose, What is?	20
Nitrocellulose, Is it Explosive?	20
Nut Tung Oil	2

O	
Ochre, Yellow	2
"Oil," Advice to Consumer	12
Oil, Adulterated	2
Oil, China Wood	2
Oil, Cotton-seed	2
Oil, Boiled	2
Oil, "Doped"	2
Oil, Dryers	10
Oil, Linseed, Blended, Raw	2
Oil, Lumbang	2
Oil, Poppy-seed	2
Oil, Parilla	2
Oil, Soy	2
Oil, Sunflower Seed	2
Oil, Tung	2
Orange Mineral	2
P	
Paint and Varnish, How May Dealer Increase Sales?	24
Paint and Varnish Remover	15
Paint, Burning Off, Advice to Consumer	15
Paint, Cement or Concrete	21
Paint, Complaints	24
Paint, Consumer, Advice for	14
Paint, Consumer, Questions to be Asked	11
Paint, Difference from Varnish	4
Paint, Flat Wall	6
Paint, Flat Wall, Advice to Consumer	21
Paint or Varnish, Assistance in Selecting	14
Paint or Varnish, Cost of	14
Paint or Varnish, Guarantees	23
Paint, Porch Chair	20
Paint, Porch Floor	21
Paint, Troubles	24
Paint, Use of Dryers in	15
Paint, Use of Turpentine in	10
Paint, Usual Components of	4
Paint, Water	21
Paint, What is?	2
Paint, Why are Inert Pigments Used in?	7
Painted Floors, Varnishing	15
Painting, Advice to Consumer	11
Painting Bricks	12
Painting Cement or Concrete	12
Painting Copper	12
Painting Cypress	12
Painting, Galvanized Iron	12
Painting, Interior Flat	21
Painting on New Wood	12
Painting Over Varnish	12
Painter's Plaster	12
Painting Tin Roofs, etc.	12
Painting Yellow or Hard Pine	12
Parilla Oil	2
Pigments, Inert, Why Used	7
Pipes	12
Plastered Walls, Treatment of	21
Plaster, Painting on	12
Plasticizers, What are?	21

Polish Furniture, Advice to Consumers	21
Poppy-seed Oil	2
Porch Chair Paint	20
Porch Floor Paint	21
Prepaco	2
"Prince's Mineral"	2
Prussian Blue	2
Putty	12
Pyroxylin, What is?	30
Q	
Questions to be Asked Consumers	11
Quality Insures Economy	24
R	
Radiators, Finish for	22
Red Lead	2
Red Lead, Advice to Consumers	12
Red Veneer	2
Reds, Iron Oxide	2
Refinishing Hardwood Floors	16
Remover, Paint and Varnish	15
Roofs, Tin, Painting	13
S	
Salesman's Knowledge of Goods	2
Shellac, Advice to Consumer	17
Shellac on Light Color Hardwood Floors	17
Shingle Stain	17
Sienna, Burnt	2
Sienna, Raw	2
Silica	7
Sizes, Wall	21
Soya Oil	2
Spirit, Mineral	10
Spirits of Turpentine	10
Stain, Advice to Consumer	22
Stain, Oil	22
Stain, Shingle	17
Stain, Turpentine	22
Stain, Varnish	22
Stain, Water	22
"Sublimed" White, Lead	2
Sunflower-seed Oil	2
T	
"Thinners," Volatile	10-11
Tin, Painting	12
Titanium Pigments, What are?	2
Torch, Gasoline	12
Treatment of Customers	2
Tung Oil	2
Turpentine, Gum	10
Turpentine, Wood	10
U	
Ultramarine Blue	2
Umber, Burnt	2
Umber, Raw	2
V	
Vapors, Inflammable	22
Varnish, Advice to Consumer	14
Varnish and Paint Remover	15
Varnish, Burning Off, Advice	15
Varnish Complaints	22
Varnish Copal	19

Varnish, Difference from Paint	4
Varnish, Floor, Advice to Consumer	14
Varnish, Furniture	19
Varnish, Furniture, Advice to Consumer	22
Varnish, Select According to Use	25
Varnish Stains	22
Varnish Troubles	24
Varnish, Use of Turpentine in	10
Varnish, What is?	4
Varnish or Paint, Assistance in Selecting	14
Varnish or Paint, Cost of	14
Varnish or Paint Guarantees	22
Varnishing Painted Floors	16
Venetian Red	2
Vermilion (Mercury)	2
Ventilation, Advice to Consumer	22
Volatile "Thinners"	10-11
W	
Wall Sizes	21
Walls, Painted, Cleaning	21
Walls, Plastered, Treatment of	21
"Washing" of Paint	24
Water Paints	21
What are Brushing Lacquers?	21
What are Lacquers?	22
What are Lacquer Thinners?	22
What are Pigmented Lacquers?	21
What are Plasticizers?	21
What are Spraying Lacquers?	21
What are Titanium Pigments?	2
What are the Usual Components of Paint?	4
What is Antimony Oxide?	7
What is Chinese Lacquer?	22
What is Nitrocellulose?	2
What is Paint?	2
What is Pyroxylin?	30
What is the Difference between Paint and Varnish?	4
What is the Difference between a Spraying Lacquer and a Brushing Lacquer?	22
What is Varnish?	4
What Plasticizers are Used in Lacquers?	21
What Should a Salesman Know?	2
What Solvents are Used in the Manufacture of Lacquer?	21
White Lead, Basic Carbonate	2
White Lead, Basic Sulphate	2
Whiting	7
Why are Inert Pigments Used?	7
Why not the Same Varnish for Different Uses?	25
Wood Oil, Chinese	10
Wood Turpentine	19
Women Customers, Assistance to	14
Y	
Yellow, Ochre	2
Yellows, Chrome	2
Z	
Zinc, American Process	20
Zinc, French Process	20
Zinc, Lead	20
Zinc Oxide	2
Zinc, Paste	20