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Introduction

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YOUNG'S
DEMONSTRATIVE TRANSLATION
OF
SCIENTIFIC SECRETS;
OR
A COLLECTION OF ABOVE
500 USEFUL RECEIPTS
ON A VARIETY OF SUBJECTS.

TORONTO:
PRINTED BY ROSWELL & ELLIS,
KING STREET EAST

1861.

ENTERED ACCORDING TO ACT OF PROVINCIAL LEGISLATURE IN THE YEAR
OF OUR LORD ONE THOUSAND EIGHT HUNDRED AND SIXTY-ONE,
BY: DANIEL YOUNG,
IN THE OFFICE OF THE REGISTRAR OF THE PROVINCE OF CANADA.

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TO ALL WHO HAVE PURCHASED THIS WORK.

INTRODUCTION, JANUARY 1990.

One day, while raiding my parents attic, I came across some old books we had enjoyed as children. "YOUNG'S DEMONSTRATIVE TRANSLATION OF SCIENTIFIC SECRETS" being one of them. Everyone liked to look through the old book to see the way things were done over one hundred and twenty five years ago.

The problem, of course, was that the combination of age and frequent handling were having a disastrous effect on the book's physical condition. The solution was to copy the book so we could enjoy what it contained without further damage to the original.

During the summer of 1987 my nephew (Bob Gravonic) and I copied it on to my computer. It's been done as faithfully as possible. Obscure items have been copied exactly as printed and many of the spellings

which you may attribute to copy mistakes are as they were originally printed. While every effort has been made to ensure that what you now have is an exact copy of the original text, we make no guarantees to this end. We definitely do not encourage the use of the remedies or medicines listed in the text for various ailments and diseases.

Some of the ingredients called for in many of the receipts may leave you puzzled. Join the club. We don't know where to find "two scruples of calomel" (No. 344) either. And we're sure the SPCA would have something to say about pouring fresh melted butter in a horse's ears (No. 321). My own favorite is number 509, the GOOD SAMARITAN PAIN KILLER which begins with two quarts of 95% alcohol and one ounce of the oil of turpentine.

Our family has had much enjoyment from this curious old book. We hope you do to.

Paul Hubbs
Toronto, Ontario (Canada)
January 6, 1990

INTRODUCTION.

The object of the present work is clearly announced in its title. It is to collect within a small compass the instructions of experimental knowledge upon a great variety of subjects which relate to the present interests of man. It contains above five hundred genuine and practical receipts, which have been compiled by the publisher with extreme difficulty and expense. A reference to the list of subjects which the work contains, will show that the publisher's researches have been extensive, while a comparison of the work with others of the same general character evinces patient labour, and cannot fail to give it pre-eminence. While the track pursued is not new, it is more thorough, and more easily followed than that marked out by any previous compiler known to myself. The work contains not merely the outlines on the subjects to which it refers, but, what appears to my own mind one of its excellences, the full and clear explanations of these subjects. To all classes of people, without exception, the work is of great value. It is fit, on every account, that the publisher should be encouraged in this production. The work is worthy the acceptance of all, and one which every man may prize.

ERRATA.

Page 117, and seventh line from top, and page 60, third line from bottom, says - tin of silver foil, they should be silver leaf.

DEMONSTRATIVE TRANSLATION OF SCIENTIFIC SECRETS

1. ORIENTAL PAINTING.

Any bunch of roses or flowers, or any thing of the kind that you admire, take the pattern of by placing them against a light of window glass, then lay a piece of white paper over them, and through the latter you will see the roses, &c. Now with a lead pencil take the pattern of the roses, &c., on the paper; when you have them all marked, cut them out with a scissors, so that you have a complete pattern of them. Now take a piece of glass, whatever size your pattern requires, stick the pattern on it with wafers, then paint the glass all over, except where the pattern covers, with black paint, composed of refined lampblack, black enamel, copal varnish and turpentine, mixed. Now let this dry, then take off your patterns and paint your roses, flowers, &c., with tube paints, mixed with demar varnish, so that your roses, &c., may be, in a manner, transparent. Paint your large roses red, some of the smaller ones yellow, or any colour to suit your taste. Paint one side of the leaves a darker shade of green than the other, which will make the picture appear as though the sun was shining on it. When this painting is dry, take silver or gold foil, (gold is best,) wrinkle it up in your hand then nearly straighten it, and cover the back of the glass all over with it; over the large roses let the wrinkles be larger, over the small ones smaller, &c.; then lay a piece of stiff paper, the size of the glass, over the foil, and a piece of very thin board again over this; have it framed in this manner and it is completed. You now have one of the richest of paintings, which is commonly taught at a cost of \$5. You may buy all you require for this painting at the druggist's.

2. TRANSFER PAINTING ON GLASS.

This is for transferring any picture plate you please to glass, to be framed. First give the glass a coat of demar varnish; let it remain for eight hours, or until dry; at this time have your picture thoroughly soaked in warm water; then give the glass another coat of demar varnish, and take the picture out of the water; then let it and the glass remain for twenty minutes, by which time the water will be struck in from the face of the picture, after which you will place the front of the picture on the varnished glass, (avoiding wrinkles and spots of water,) press it well on until every part is stuck fast, then carefully rub the paper all away to a mere film; give the glass then, over this film, another coat of demar varnish, which will make the film transparent; let it dry; then place the glass, with the varnished side towards you, between you and the light, and you will see the outlines of the picture quite distinctly; you may then paint on the back with tube paints, mixed with a little demar varnish to assist in drying, to suit your taste. For instance, if the picture is that of a lady, you may paint the dress red, the shawl or cape, as it may be, blue, the face flesh colour, (which colour may be made by mixing a little red with white,) the bonnet scarlet, the shoes black; if trees, have them green, &c. All you want for this painting you may also buy at the druggist's. This painting is very simple and elegant, it is commonly taught at a cost of \$3. Try it, you cannot fail.

3. TRANSFER VARNISH.

Take of Canada balsam 3 drachms; gum sandric 3 drachms; spirits of wine 1/2 pint. Dissolve the balsam and gum in the spirits of wine and it is ready for use.

4. WHITE SPIRIT VARNISH - THE VERY BEST.

Take of gum sandrack 4 ounces; mastic 1 ounce; Elmi rosin 1/2 ounce; Venice turpentine 1 ounce; alcohol 15 ounces. Digest in a bottle, frequently shaking, till the gums are dissolved, and it is ready for

use.

5. TRANSFER PAINTING ON WOOD.

By this you may transfer any picture you please from paper to a cutter back, or any other substance you please. Give the board three coats of white spirit varnish, receipt No.4; damp the back of the print with strong vinegar; give the front a very heavy coat of the transfer varnish, receipt No.3; then press it on the board, avoiding creases; when perfectly dry and fast, rub the paper away; the print is indelibly fixed; then varnish it over as you would any other painting. This receipt has been commonly sold for \$5.

6. ELECTRO GOLD PLATING - NEW METHOD.

Take 100 grams of laminated gold, mixed with 20 grams of hydrochloric acid; 10 grams of nitric acid; the liquid thus composed is placed over a moderate fire, and stirred constantly until the gold passes into the state of chlorine; it is then allowed to cool. A second liquid is formed by dissolving 60 grams of cyanide of potassium in 80 grams of distilled waters; the two liquids are mixed together in a decanter and stirred for 20 minutes, and then filtered. Finally 100 grams of whiting, dry and sifted, are mixed with 5 grams of pulverised supertartrate of potass; this new powder is dissolved in a portion of the above described liquid, in sufficient quantity to form a paste of the proper consistency to be spread with a pencil on the article or part to be gilded. The superabundant powder is then removed by washing and the article is beautifully gilded with a heavy or light coat, according to the quantity of paste used. Grams belong to French weights, four grams are a little more than one drachm.

7. ELECTRO SILVERING - NEW METHOD.

10 grams of nitrate of silver are dissolved in 50 grams of distilled water; then 25 grams of cyanide of potassium in 50 grams of distilled water; the two liquids are mixed in a decanter, and stirred for 10 minutes; it is then filtered. Finally, 100 grams of sifted whiting are mixed with 10 grams of pulverised supertartrate of potass and one gram of mercury. This powder and dissolving liquid are used in the same manner as in the above method of gold plating. These excellent methods of silvering and gilding were discovered in June 1860, by the great French chemist Baldooshong of Paris France. It is far superior to any other method ever discovered, and will eventually take the place of all.

8. ELECTRO GOLD PLATING - USUAL METHOD.

Take a \$2 50c. piece of gold, and put it into a mixture of 1 ounce of nitric and 4 ounces of muriatic acids, (glass vessels only are to be used in this work,) when it is all cut dissolve 1/2 an ounce of sulphate of potash in one pint of pure rain water, and mix the gold solution, stirring well; then let stand and the gold will be thrown down; then pour off the acid fluid, and wash the gold in two or three waters, or until no acid is tasted by touching the tongue to the gold. Now dissolve one ounce of cyanuret of potassium in one pint of pure rain water, to which add the gold, and it is ready to use. Clear the article to be plated from all dirt and grease with whiting and a good brush; if there are cracks it may be necessary to put the article in a solution of caustic potash. At all events every particle of dirt and grease must be removed; then suspend

the article in the cyanuret of gold solution, with a small strip of zinc cut about the width of a common knitting needle, hooking the top over a stick which will reach across the top of the vessel or bottle holding the solution. If the zinc is too large the deposit will be made so fast that it will scale off. The slower the plating goes on the better, and this is arranged by the size of the zinc used. When not using the plating fluid keep it well corked and it is always ready to use, bearing in mind that it is poison as arsenic, and must be put high out of the way of children, and labelled poison, although you need have no fear using it; yet accidents might arise if its nature were not known.

9. ELECTRO SILVERING - USUAL METHOD.

This is done every way the same as gold plating (using coin) except that rock salt is used instead of the cyanuret of potassium to hold the silver in solution for use, and when it is of the proper strength of salt it has a thick curdy appearance, or you can add salt until the silver will deposit on the article to be plated, which is all that is required. No hesitation need be felt in trying these receipts, as they are obtained from a genuine source, and are in every day use.

10. GOLD PLATING FLUID.

Warm six ounces of pure rain water, and dissolve in it 2 ounces of cyanide of potassium, then add a 1/4 ounce oxide of gold; the solution will at first be yellowish, but will soon subside to white; then half fill a bottle with whiting, fill it up with this solution and shake it well; you may now take a piece of old cotton, wet it with the solution, rub it well over brass, copper, &c., and it is nicely washed with gold.

11. SILVER PLATING FLUID.

Dissolve one ounce of nitrate of silver, in crystal, in 12 ounces of soft water; then dissolve in the water two ounces of cyanuret of potash; shake the whole together and let it stand until it becomes clear. Have ready some 1/2 ounce vials, and fill them half full of whiting, then fill up the bottles and it is ready for use. The whiting does not increase the coating powder - it only helps to clear the articles and save the silver fluid by half filling the bottles. The above quantity of materials will cost about \$1.62c., so that the fluid will be about 3 cents a bottle. It is used in the same way as the gold plating fluid.

12. QUICKSILVER PLATING FLUID.

Take of quicksilver one ounce, one ounce nitric acid, one ten cent piece, rain water 1/2 pint to a pint, put the three first articles into a tumbler together; let them stand until dissolved, occasionally stirring, then add the water, and it is ready for use. This is used in the same way as the silver and gold plating fluid.

13. TO GILD STEEL.

Pour some of the ethereal solution of gold into a wine-glass, and dip into it the blade of a new penknife, lancet, razor, &c., withdraw the instrument and allow the ether to evaporate, the blade will then be found

to be covered with a beautiful coat of gold; the blade may be moistened with a clean rag or a small piece of very dry sponge dipped into the ether, and the same effect will be produced.

14. TO GILD COPPER, BRASS, &c. - BY AN AMALGAM.

The gilding of these inferior metals and alloys of them is effected by the assistance of mercury with which the gold is amalgamated. The mercury is evaporated while the gold is fixed by the application of heat, the whole is then burnished or left mat in the whole or in part, according as required.

15. GILDING GLASS AND PORCELAIN.

Dissolve in boiling linseed oil an equal weight either of copal or amber, and add as much oil of turpentine as will enable you to apply the compound or size thus formed as thin as possible to the parts of the glass intended to be gilt; the glass is to be placed in a stove till it is so warm as almost to burn the fingers when handled. At this temperature the size becomes adhesive, and a piece of leaf gold applied in the usual way will immediately stick. Sweep off the superfluous portions of the leaf, and when quite cold it may be burnished, taking care to interpose a piece of india paper between the gold and the burnisher. It sometimes happens when the varnish is not very good that by repeated washing the gold wears off; on this account the practice of burning it in is sometimes had recourse to; for this purpose some gold powder is ground with borax, and in this state applied to the clean surface of the glass by a camel hair pencil; when quite dry the glass is put into a stove, heated to about the temperature of an annealing oven, the gum burns off; and the borax, by vitrifying, cements the gold with great firmness to the glass, after which it may be burnished.

The gilding upon porcelain is in like manner fixed by heat and the use of borax, and this kind of ware, being neither transparent nor liable to soften, and thus to be injured in its form in a low red heat, is free from the risk and injury which the finer and more fusible kinds of glass are apt to sustain from such treatment. Porcelain and other wares may be platinized, silvered, tinned, or bronzed, in a similar manner.

16. GILDING THE EDGES OF PAPER.

The edges of the leaves of books and letter paper are gilded whilst in a horizontal position in the bookbinder's press or some arrangement of the same nature, by first applying a composition formed of four parts of Armenian-bole and one of candied sugar, ground together with water to a proper consistence, and laid on by a brush with the white of an egg. This coating, when nearly dry is smoothed by the burnisher, it is then slightly moistened by a sponge dipped in clean water and squeezed in the hand; the gold leaf is now taken up on a piece of cotton from the leathern cushion and applied on the moistened surface; when dry it is to be burnished by rubbing the burnisher over it repeatedly from end to end, taking care not to wound the surface by the point.

17. PROFESSOR WORTS' AMALGAM FOR SILVERING.

This is the only means yet discovered for silvering iron directly, yet it is not so lasting as some of the

other processes. Take quicksilver and the metal potassium, equal parts by volume, put them together in a tumbler, and if both metals be good there will be a brisk ebullition, which continues until an amalgam of the two is formed, then add as much quicksilver as there is of the amalgam; let it work till thoroughly mixed, and it is ready for use. This amalgam you may apply with a cloth to any metal, even iron, though it be a rusty bar, and you have it neatly silvered over.

18. FOR COPPERING IRON.

This is the latest method, and that now in use. To a solution of sulphate of copper, add a solution of ferrocyanide of potassium, so long as a precipitate continues to be formed. This is allowed to settle, and the clear liquor being decanted the vessel is filled with water, and when the precipitate settles the liquor is again decanted, and continue to repeat these washings until the sulphate of potash is washed quite out; this is known by adding a little chloride of barium to a small quantity of the washings, and when there is no white precipitate formed by the test, the precipitate is sufficiently washed. A solution of cyanide of potassium is now added to this precipitate until it is dissolved, during which process the solution becomes warm by the chemical re-action which takes place. The solution is filtered, and allowed to repose all night. If the solution of cyanide of potassium that is used is strong, the greater portion of the ferrocyanide of potassium crystallises in the solution, and may be collected and preserved for use again. If the solution of cyanide of potassium used to dissolve the precipitate is dilute, it will be necessary to condense the liquor by evaporation to obtain the yellow prussiate in crystals. The remaining solution is the coppering solution; should it not be convenient to separate the yellow prussiate by crystallization, the presence of that salt in the solution does not deteriorate it nor interfere with its power of depositing copper.

19. PECULIARITIES IN WORKING CYANIDE OF COPPER SOLUTION.

The true composition of the salts thus formed by copper and cyanide of potassium has not yet been determined, but their relations to the battery and electrolyzation are peculiar. The solution must be worked at a heat not less than from 150~ to 200~ Farenheit (that is not quite as hot a boiling water, which is 212~ Farenheit.) All other solutions we have tried follow the laws, that if the electricity is so strong as to cause gas to be evolved at the electrode, the metal will be deposited in a sandy or powdered state, but the solution of cyanide of copper and potassium is an exception to these laws, as there is no reguline deposit obtained unless gas is freely evolved from the surface of the article upon which the deposit is taking place. As this solution is used hot, a considerable evaporation takes place, which requires that additions be made to the solution from time to time. If water alone be used for this purpose it will precipitate a great quantity of the copper as a white powder, but this is prevented by dissolving a little cyanide of potassium in the water at the rate of 4 ounces to the gallon. The vessels used in factories for this solution are generally of copper, which are heated over a flue or in a sand-bath, the vessel itself serving as the positive electrode of the battery; but any vessel will suit if a copper electrode is employed when the vessel is not of copper.

20. PREPARATION OF IRON FOR COATING WITH COPPER

When it is required to cover an iron article with copper, it is first steeped in hot caustic potash or soda to

remove any grease or oil. Being washed from that it is placed for a short time in diluted sulphuric acid, consisting of about one part acid to 16 parts of water, which removes any oxide that may exist. It is then washed in water and scoured with sand till the surface is perfectly clean, and finally attached to the battery and immersed in the cyanide solution. All this must be done with despatch so as to prevent the iron combining with oxygen.

An immersion of five minutes duration in the cyanide solution is sufficient to deposit upon the iron a film of copper, but it is necessary to the complete protection of the iron that it should have a considerably thick coating, and as the cyanide process is expensive, it is preferable when the iron has received a film of copper by the cyanide solution, to take it out, wash it in water, and attach to it a simple cell or weak battery, and put it into a solution of sulphate of copper.

If there is any part not sufficiently covered with copper by the cyanide solution, the sulphate will make these parts of a dark colour, which a touch of the finger will remove. When such is the case, the article must be taken out, scoured, and put again into the cyanide solution till perfectly covered. A little practice will render this very easy.

The sulphate solution for covering iron should be prepared by adding it by degrees a little caustic potash, so long as the precipitate formed is re-dissolved. This neutralizes a great portion of the sulphuric acid, and thus the iron is not so readily acted upon. When the iron is thus coppered, proceed to silver it in the manner recommended for silvering according to receipt No.9; or if you want to put a very heavy coating of silver on it, make use of a strong battery.

21. SOLDERING FLUID

For mending articles of tin, iron, zinc, copper, and almost all other metals. Take 2 fl. ounces of muriatic acid, add zinc till bubbles cease to rise, add 1/2 a teaspoonful of sal ammoniac and 2 ounces of water. Damp the part you wish to solder with this fluid, lay on a small piece of lead, and with a piece of hot iron or soldering iron solder the part.

22. SOLDER FOR TIN

Take of pewter 4 parts, tin 1 part, bismuth 1 part; melt them together. Resin is used with this solder.

23. COLD METHOD OF SILVERING IRON WITH SILVER-PLATE

Polish the iron toy wish to silver, then damp it over with soldering fluid (receipt No.21) When this is done give it a coat of No.22 solder. This is done by laying a piece of cold solder on the iron, and spreading it over with a heated soldering iron, when by this means you get the iron nicely plated with solder, then lay on your silver-plate evenly, and gently rub it over with the heated soldering iron, and it will become firmly united with the solder as the solder is with the iron, so that you have the iron beautifully plated with silver with very little cost or trouble.

24. HOT METHOD OF SILVERING IRON WITH SILVER-PLATE

First polish the iron you wish to silver, wet it well over with No.21 soldering fluid; then having procured that kind of silver-plate which is tin on one side and silver on the other, place it evenly on, with the tined side next to the iron, then place it on the fire until the silver-plate melts down, then at once take it from the fire, and it will be firmly attached to the iron, and will be excellent plate; yet No.23, the cold method, is to be preferred in most cases.

25. SILVERING LOOKING-GLASSES WITH QUICKSILVER

Take a piece of marble or some other substance very smooth, true, and level, lay on this the glass you wish to silver, then make a ridge of putty on the marble against the edge of the glass all round it, so that you can pour quicksilver on the glass until it is all covered over, and will be prevented from running off by the ridge of putty; an inch or two, or three outside this ridge make another of putty; then cover the quicksilver on the glass all over with tin-foil, and press it firmly but cautiously against the glass until you have squeezed out all the quicksilver you can. While you press this, you may remove part of the first ridge of putty to give the quicksilver a chance of escape. When it is well pressed against the glass there will be an amalgam formed of the tin-foil and the quicksilver that is left, which will firmly adhere to the glass. By this means you have a very beautiful and cheap looking-glass; the quicksilver that escapes, being saved by the second ridge of putty, may be used again.

26. SILVERING LOOKING-GLASSES WITH PURE SILVER

Prepare a mixture of 3 grains of ammonia, 60 grains of nitrate of silver, 90 minims of spirits of wine, 90 minims of water; when the nitrate of silver is dissolved, filter the liquid and add a small quantity of sugar (15 grains) dissolved in 1 1/2 oz. of water, and 1 1/2 oz. of spirits of wine. Put the glass into this mixture, having one side covered with varnish, gum, or some substance to prevent the silver being attached to it. Let it remain for a few days and you have a most elegant looking-glass, yet it is far more costly than the quicksilver.

27. PATENT BURNING FLUID

To 1 gallon of 95 per cent. alcohol, add 1 quart of camphene oil; mix and shake well, and if transparent it is fit for use, if not, add sufficient alcohol, shaking it well, to bring it to the natural colour of the alcohol. It may be coloured to suit the fancy by adding a little tincture of golden seal, or any other colouring drug. This receipt has been sold for \$10.

28. BURNING FLUID

Take 4 quarts alcohol, and 1 quart spirits of turpentine; mix well together, and it is ready for use.

29. NON-EXPLOSIVE BURNING FLUID

Take 1 gallon 44 proof alcohol, 1 quart camphene, 3 oz. of alum pulverized, 1/2 oz. camphor gum, 65 drops cuicumia; mix all together and let it stand 12 hours, and it is ready for use.

30. VINEGAR IN THREE DAYS WITHOUT DRUGS

Take 2 barrels and saw one of them in two in the centre, and put one-half on the top, and the other at the bottom of the whole barrel, (or you may use three whole barrels if you like.) The middle barrel is to be filled with maple, beech, or baswood shavings, which are to be planed from the edge of boards only two or three feet long, which allows the shavings to roll, and prevents them from packing tight, and also allows air to circulate through them, which is admitted through a number of inch holes, which are to be made near the bottom of the barrel and just above the faucet, which lets the vinegar run into the tub below. The top tub has its bottom pierced with small bit holes, having several threads of twine hanging in them to conduct the vinegar evenly over the top of the shavings in the middle of the barrel. Air must be permitted to pass out between the top tub and barrel, which comes in at the holes in the bottom. The shavings which fill the barrel must be soaked three or four days in good vinegar before they are put in. When thus arranged, for every gallon of water use 1/2 lb. of sugar; (that you get from molasses barrels does vary well.) If you wish to make vinegar from whiskey, put in 4 gallons of water to 1 gallon of whiskey; and if from cider, put in one-third water, and fill the top tub with this fluid, putting 1 pint good yeast to each barrel making; and have the holes with threads or twine so arranged that it will run through every twelve hours; and dip or pump up with a wooden pump every night or morning, and three days will make good substantial vinegar, which will keep and also improve by age. Some use only 1 gallon of whiskey to 7 gallons of water. This accounts for so much poor vinegar. Make good vinegar, it will pay you. If a few gallons of water is made boiling hot so as to warm the whole of a gentle warmth, it will make faster than if used cold. This must be done in cool weather, and the room also should be kept warm. For families, small kegs will do, but for manufacturers large casks are best. Many make vinegar by just putting fluid into the barrels of shavings, soaked as directed above, and do not let it run through, but let it stand in the shavings till sour; but it does not work fast enough for manufacturers. It will do where only a small amount is needed, keeping the same strength of fluid as for the other plan, which is best. Two or three years ago, this receipt was sold for from \$50 to \$150. If vinegar is made from whiskey, it will have a more beautiful color if 5 or 6 lbs. of sugar is put into each barrel, of course keeping the same proportions of water as though only one kind was used. The shavings will last the whole season.

31. CUBA HONEY

Good brown sugar 11 lbs., water 1 quart, old bee honey in the comb 2 lbs., cream tartar 50 grains, gum arabic 1 oz., oil of peppermint 5 drops, oil of rose 2 drops, mix and boil two or three minutes and remove from the fire, have ready strained one quart of water, in which a table-spoonful of pulverized slippery elm bark has stood sufficiently long to make it ropy and thick like honey, mix this into the kettle with egg well beat up, skim well in a few minutes, and when a little cool, add two pounds of nice strained bees' honey, and then strain the whole, and you will have not only an article which looks and tastes like honey, but which possesses all its medicinal properties. It has been shipped in large quantities under the name of Cuba honey. It will keep fresh and nice for any length of time if properly covered.

32. EXCELLENT HONEY

Take 5 lbs. of good common sugar, two pounds of water, gradually bring to a boil, skimming well, when cool, add 1 lb. bees' honey, and 4 drops of peppermint. If you desire a better article use white sugar and 1/2 lb. less water, and one half pound more honey.

33. GUNPOWDER

Take pulverized saltpetre, moisten it, and subject it to the action of a slow fire until completely dried and granulated, of this take 75 parts, purified sugar 12 and a-half parts, moisten and grind together till completely blended, which will require several hours, pulverize on heaters till dried.

34. EXCELLENT MATCHES

The ends of the tapers or wood should be very dry, and then dipped in hot melted sulphur and laid aside to dry; then take 4 parts of glue, dissolve it and while hot add one part of phosphorus, and stir in a few spoonfuls of fine whiting to bring to the proper thickness. This preparation should be kept hot by being suspended over a lamp, while dipping the wood or tapers. Colour the mixture by adding a little vermilion, lamp black or prussian blue; be careful not to ignite the compound while dipping.

35. FIRE AND WATER-PROOF CEMENT

To half a pint of milk add half a pint of vinegar to curdle it; then separate the curd from the whey, and mix the whey with 4 or 5 eggs; beating the whole well together; when it is well mixed, add a little quick-lime through a sieve, until it has acquired the consistence of a thick paste. This is a prime article for cementing marble, in or out of the weather. It is excellent for broken vessels, &c.

36. FRENCH CHEMICAL SOAP

Take 5 lbs. castile soap, cut fine, 1 pint alcohol, 1 pint soft water, 2 ounces aquafortis (if for black cloth 1/2 ounce of lampblack,) 2 ounces saltpetre, 3 ounces potash, 1 ounce camphor, 4 ounces cinnamon in powder. First dissolve the soap, potash, and saltpetre by boiling, then add all the other articles, and continue to stir until it cools, then pour it into a box, let it stand 24 hours, and cut it into cakes. It is used for taking grease, stains, and paints from cloth, wood, &c. This receipt has frequently sold for \$10.

37. BLACK INK WITHOUT SEDIMENT

This ink is not injured by frost - is a beautiful article, and only costs 5 cents. per gallon, and is sold for from \$1 to \$3.

Take 1 lb. logwood, 1 gallon soft water, simmer in an iron vessel for one hour, then dissolve in a little hot water 24 grains bychromate of potash, and 12 grains prussiate of potash, and stir into the liquid while over

the fire, then take it off and strain it through fine cloth. This ink is a jet black flows freely from the pen and will stand the test of oexylic acid.

38. INDELIBLE INK

1 inch of the stick of the nitrate of silver dissolved in a little water, and stirred into each gallon of the above, makes first rate indelible ink for cloth. Judge what indelible ink costs.

39. INDELIBLE INK

Nitrate of silver 1 1/2 oz., dissolved in liquor ammonia fortisine 5 1/2 oz., orchil for colouring 3/4 oz., gum mucilage 12 oz., mix the two latter, then mix them with the two former, and it is ready to use.

40. WRITING FLUID OR BLACK COPYING INK

Take two gallons of rain water and put into it gum arabic 1/4 lb., brown sugar 1/4 lb., clean copperas 1/4 lb., powdered nut galls 3/4 lb., mix and shake occasionally for ten days and strain. If needed sooner, let it stand in an iron kettle until the strength is obtained. This ink can be depended on for deeds or records, which you may want someone to read hundreds of years to come. Oexylic acid 1/4 oz., was formerly put in, but as it destroys the steel pens, and does just as well without it - it is now never used.

41. BEST INK POWDER

This is formed of the dry ingredients for ink, powdered and mixed. Take powdered galls one pound, powdered green vitriol half a pound, powdered gum 4 ounces, mix all together, put it up into 2 ounce packages, each of which will make a pint if ink.

42. BEST RED INK

Take of best carmine (nakarot) 2 grains, rain water 1/2 ounce, water of ammonia 20 drops, add a little gum arabic, and it is in a few minutes ready for use.

43. YELLOW INK

Dissolve alum in saffron water to whatever shade of yellow you please. It makes a beautiful ink.

44. BLUE INK

Take Prussian blue, and oexylic acid, in equal parts, powder finely, and add soft water to bring it to a soft paste, and let it stand for a few days, then add soft water to the desired shade of colour; add a little gum arabic to prevent spreading.

45. GOLDEN INK

Take some white gum arabic, reduce it to an impalpable powder in a brass mortar, dissolve it in strong brandy, and add a little common water to render it more liquid, provide some gold in a shell, which must be detached in order to reduce it to a powder, when this is done moisten it with the gum solution, and stir the whole with a small hair brush, or your finger, then leave it for a night that the gold may be better dissolved. If the composition becomes dry during the night, dilute it with more gum water in which a little saffron has been infused, but take care that the gold solution be sufficiently liquid to flow freely in a pen; when the writing is dry polish it with a dry tooth.

46. WHITE INK FOR WRITING ON BLACK PAPER

Having carefully washed some egg shells remove the internal skin and grind them on a piece of porphyry, then put the powder in a small vessel of pure water, and when it has settled at the bottom, draw off the water and dry the powder in the sun. This powder must be preserved in a bottle; when you want to use it put a small quantity of gum ammoniac into distilled vinegar, and leave it to dissolve during the night, next morning the solution will appear exceedingly white, and if you then strain it through a piece of linen cloth, and add to it the powder of egg shells in sufficient quantity, you will obtain a very white ink.

47. SECRET INK FOR YOUNG LADIES AND GENTS

Take a drachm of clean rain water, put into it, in a clean vial, 10 or 12 drops of pure, clean sulphuric acid, and it is ready for use; write with this using a clean quill pen on letter paper, and when dry you can see no mark at all, then hold it to a strong heat and the writing becomes as black as jet. If you want to write to a young lady or gentleman, as the case may be, and fearing that the letter might be opened before she or he gets it, write with common black ink something of no importance, then between the lines write what you want to say with the secret ink. The person to whom you are writing must understand the scheme so that she or he may hold it to the heat and thereby make the writing visible.

48. CIDER WITHOUT APPLES

To each gallon of cold water put 1 lb. common sugar, 1/2 ounce of tartaric acid, one tablespoonful of yeast, shake well, make in an evening and it will be fit for use next day. I make in a keg a few gallons at a time, leaving a few quarts to make into next time, not using yeast again until the keg needs rinsing. If it gets a little sour, make a little more into it or put as much water with it as there is cider and put it with the vinegar. If it is desired to bottle this cider by manufacturers of small drinks, you will proceed as follows: put in a barrel 5 gallons of hot water, 30 lbs. of brown sugar, 3/4 lb. of tartaric acid, 25 gallons of cold water, 3 pints of hop or brewer's yeast, work into paste with 3/4 lb. of flower, and one pint water will be required in making this paste; put all together in a barrel which it will fill and let it work 24 hours, the yeast running out at the bung all the time by putting in a little occasionally to keep it full; then bottle, putting in two or three broken raisins to each bottle, and it will nearly equal champagne.

49. SPRUCE OR AROMATIC BEER

Take 3 gallons of water, 2 1/2 pints molasses, 3 eggs well beaten, 1 gill yeast, put into two quarts of the water boiling hot, put in 50 drops of any oil you wish the flavour of, or mix one ounce each, oil sarsafra, spruce, and wintergreen; then use the 50 drops. For ginger flavour take 2 ounces ginger root bruised and a few hops, and boil for 30 minutes in one gallon of the water, strain and mix all; let it stand 2 hours and bottle, using yeast, of course, as before.

50. LEMON BEER

To make 20 gallons, boil 6 ounces of ginger root bruised, 1/4 lb. cream-tartar for 20 or 30 minutes in 2 or 3 gallons of water; this will be strained into 13 lbs. of coffer sugar on which you have put 1 oz. oil of lemon and six good lemons all squeezed up together, having warm water enough to make the whole 20 gallons, just so you can hold your hand in it without burning, or some 70 degrees of heat; put in 1 1/2 pint hops or brewer's yeast worked into paste as for cider, with 5 or 6 oz. of flower; let it work over night, then strain and bottle for use. This will keep a number of days.

51. PHILADELPHIA BEER

Take 30 gallons of water, brown sugar 20 lbs., ginger root bruised 1/4 lb., cream tartar 1 1/4 lb., carbonate of soda 3 ounces, oil of lemon 1 teaspoonful, put in a little alcohol, the white of 10 eggs well beaten, hops 2 ounces, yeast one quart. The ginger root and hops should be boiled for 20 or 30 minutes in enough of the water to make all milk warm; then strain into the rest, and the yeast added and allowed to work itself clear as the cider and bottled.

52. SILVER TOP DRINK

Take of water 3 quarts, white sugar 4 lbs., oil of lemons one teaspoonful, white of 5 eggs, beaten with one teaspoonful of flour; boil to form syrup, then divide into equal parts, and to one add 3 ounces of tartaric acid, and to the other part 4 oz. of carbonate of soda, then take two thirds of a glass of water, and put in a spoonful of each of the syrups, more or less, according to the size of the glass.

53. DIRECTIONS FOR MAKING SODA DRINKS

In getting up any of the soda drinks which are spoken of hereafter it will be preferable to put about 4 oz. of carbonate (sometimes called supercarbonate) of soda into one pint of water, and shake when you wish to make a glass of soda, and pour from this into the glass until it foams well instead of using dry soda as directed.

54. IMPERIAL CREAM NECTAR

Part 1st. - Take 1 gallon water, 6 lbs. loaf sugar, 6 ounces tartaric acid, gum arabic 1 oz.

Part 2nd. - Take 4 teaspoonsful of flour, the whites of four eggs beat finely together, then add 1/2 pint of water. Heat the first part until it is blood warm, then put in the second, boil 3 minutes and it is done.

Directions. - To 3 tablespoonfuls of the syrup in a glass half or two thirds full of water add one third of a teaspoonful of carbonate of soda made fine, stir well, and drink at your leisure.

55. A SUPERIOR GINGER BEER

Take of sugar 10 lbs., lemon juice 9 oz., honey 1/2 lb., bruised ginger root 11 oz., water 9 galls., yeast 3 pints, boil the ginger in the water until the strength is all extracted, which you may tell by tasting the root, then pour it into a tub, throwing the roots away, let it stand until nearly luke warm, then put in all the rest of the ingredients, stir well until all dissolved, cover it over with a cloth, and if it be in the evening, let it remain until next morning, then strain through cloth, and bottle it, and in a short time it will be fit for use. Some use less sugar, and some less lemon juice, to make it with less expense; but it is not so elegant a drink as this.

56. GINGER POP No. 1

Take of water 5 1/2 galls., ginger root bruised 3/4 lb., tartaric acid 1/2 oz., white sugar 2 1/4 lbs., the whites of 3 eggs well beat, a small teaspoonful of oil of lemon, yeast 1 gill; boil the root for 30 minutes in 1 gallon of the water, strain off, and put the oil in while hot, mix all well, make over night, in the morning skim, and bottle, keeping out sediment.

57. GINGER POP No. 2

Take best white Jamaica ginger root bruised 2 oz., water 6 quarts, boil 20 minutes and strain, then add cream tartar 1 oz., white sugar 1 lb.; put on the fire, then stir until all the sugar is dissolved; then put into an earthen jar, now put in tartaric acid 1/4 oz., and the rind of 1 lemon, let it stand until 70 degrees of Fahrenheit, or until you can bear your hand in it with comfort, then add two tablespoonsful of yeast, stir well, bottle for use, and tie the corks; make a few days before it is wanted for use.

58. YEAST

Take a good single handful of hops, and boil for 20 minutes in 3 pints of water, then strain, and stir in a teacupful of flour, a tablespoonful of sugar, and a teaspoonful of salt; when a little cool put in 1 gill of brewer's yeast, and after four or five hours cover up, and stand in a cool place for use; make again from this unless you let it get sour.

59. SODA SYRUPS

Take of loaf or crushed sugar 8 lbs., pure water 1 gall., gum arabic 1 oz., mix in a brass or copper kettle, boil until the gum is dissolved, then skim and strain through white flannel, after which add tartaric acid 5 1/2 oz., dissolved in hot water. To flavour use extract of lemon, orange, rose, sarsaparilla, strawberry, &c.,

1/2 oz., or to your taste. If you use the juice of lemon, add 1 1/2 lbs., of sugar to a pint; you do not need any tartaric acid with it; now use 2 or 3 tablespoonsful of syrup to 3/4 of a tumbler of water, and 1/3 teaspoonsful of supercarbonate of soda made fine, stir well and be ready to drink; the gum arabic, however, holds the carbonic acid so it will not fly off so readily as common soda. For soda fountains, 1 oz., of supercarbonate of soda is used to 1 gallon of water. for charged fountains no acids are needed in the syrups.

60. MINERAL WATER

Epsom salts 1 oz., cream tartar 1/2 oz., tartaric acid 1/4 oz., loaf sugar 1 lb., oil of birch 20 drops; put 1 quart boiling water on all these articles, and add 3 quarts of cold water to 2 tablespoonsful of yeast; let it work 2 hours and then bottle.

61. IMPROVED ENGLISH STRONG BEER

If you have malt use it, if not, take 1 peck of barley, and put it into a stove oven, and steam the moisture from them, grind coarsely, and pour into them 3 1/2 gallons of water, at 170 or 172 degrees. (If you use malt it does not need quite so much water, as it does not absorb so much as the other. The tub should have a false bottom with many gimblet holes to keep back the grain.) Stir them well and let stand 3 hours and draw off, put on 7 gallons more water at 180 or 182 degrees, stir well, let stand 2 hours and draw off, then put 1 gallon or 2 of cold water, stir well and draw off; you should have about 5 or 6 gallons; mix 6 lbs., coarse brown sugar in equal amount of water, add 4 oz. of good hops, boil for 1 1/2 hour; you should have from 8 to 10 gallons when boiled; when cooled to 80 degrees, put in a teacupful of good yeast and let it work 18 hours covered with a sack. Use sound iron-hooped kegs, or porter bottles, bung or cork tight, and in two weeks it will be good sound beer, nearly equal in strength to London porter, or good ale, and will keep a long time.

62. SANGAREE

Take wine, ale, or porter, 1/3, and 2/3 water, hot, or cold, according to the season of the year, loaf sugar to the taste with nutmeg.

63. GINGER WINE

Put 1 oz. good ginger root bruised in 1 quart of 95 per cent. alcohol, let it stand 9 days, and strain, add 4 quarts of water, and 1 lb. of white sugar, dissolved in hot water, 1 pint port wine to this quantity, for what you retail at your own bar makes it far better; colour with tincture of saunders to suit; drink freely of this hot on going to bed, when you have a bad cold, and in the morning you will bless ginger wine.

64. HOP BEER

Take of hops 6 oz., molasses 5 quarts, boil the hops in water till the strength is out, strain them into a 30

gallon barrel, add the molasses and a teacupful of yeast, and fill up with water, shake it well and leave the bung out until fermented, which will be in about 24 hours; bung up, and it will be fit for use in about 3 days. A most excellent summer drink, smaller quantities in proportion.

65. USQUEBAUGH OR IRISH WHISKEY

Best brandy 1 gallon, stoned raisins 1 lb., cinnamon, cloves, nutmeg, and cardamom, each 1 oz., crushed in a mortar, saffron 1/2 oz., or the rind of 1 Seville orange, and a little sugar candy; shake these well, and it is ready for use in 14 days.

66. ICE CREAM

Add a little rich sweet cream, and 1/2 lb. of loaf sugar to each quart of cream or milk; if you cannot get cream the best imitation is to boil a soft custard; 6 eggs to each quart of milk, (eggs well beaten); or another way, boil a quart of milk, and stir into it, while boiling, a tablespoonful of arrow-root, wet with cold milk, then cool stir in the yolk of one egg, to give a rich colour; five minutes boiling is enough for either plan; put the sugar in after they cool, keep the same proportions for any amount desired. The juice of strawberries, or raspberries, give a beautiful colour and flavour to ice creams; or about 1/2 oz. of the essence or extracts to a gallon, or to suit the taste. Have your ice well broken, add 1 quart of salt to a bucket of ice, then place in this the vessel containing your cream, and about one half hour's constant stirring and occasional scraping down and beating together will freeze it.

67. CHICAGO ICE CREAM

Irish moss soaked in warm water about an hour, and rinsed well to clear it of a certain foreign taste, then steep it in milk, keeping it just at the point of boiling or simmering for an hour, or until a rich yellow colour is given to the milk, without cream or eggs; 1 or 1 1/2 oz. of moss is enough for a gallon of cream, and this will do to steep twice. Sweeten and flavour as other cream.

68. CREAM SODA

Loaf sugar 10 lb., water 3 gills, mix, and warm gradually, so as not to burn, good rich cream 2 quarts, extract vanilla 1 1/2 oz., extract nutmeg 1/4 oz., and tartaric acid 4 oz.; just bring to a boiling heat; for if you cook it any length of time it will crystallize. Use 4 or 5 spoonful of this syrup instead of 3, as in other syrups; put 1/3 teaspoonful of soda to a glass, if used without fountain. For charged fountains no acid is used.

69. LEMON SYRUP

Take of the juice of lemons one pint, white sugar one and a half pound, and a little of the peel. Mix and boil a few minutes, strain, and when a little cool, bottle, and cork, for use.

70. ORANGE AND RASPBERRY SYRUPS

Take of the juice of either, as the case may be, one pint; white sugar one and a half pound. If it be orange a little of the peel; tartaric acid 4 oz. Mix and boil a few minutes; strain, and when a little cool, bottle and cork for use. When to be drank, mix three or four tablespoonsful of syrup with three quarters of a glass of water, and add a teaspoonful of soda. If water be added to the syrup it will not keep well.

71. PURE WINE

Take three pounds of nice raisins free of stems, cut each one in two or three pieces, put them into a stone jug with one gallon pure soft water, let them stand two weeks uncovered, shaking occasionally (put in a warm place in winter,) strain through three or four thicknesses of woollen, or filter; colour with burned sugar; bottle and cork for use. For saloon purposes, add one pint of good brandy. The more raisins the better the wine, not exceeding 5 lbs.

72. PURE WINE VINEGAR

This is made by putting the same quantity of water on the above raisins, after the wine is poured off, as at first for making wine, and standing the same length of time, in the same way.

73. PORT WINE

Take 42 gallons of worked cider, 12 gallons of good port wine, 3 gallons good brandy, 6 gallons pure spirits. Mix together. Elder-berries and sloes, or fruit of the black hawes, make a fine purple colour for wines.

74. CHAMPAGNE WINE

Take of good cider (crab-apple cider is best) seven gallons, best fourth proof brandy one quart, genuine champagne wine five quarts, milk one gill, bitartrate of potash 2 oz. Mix and let it stand a short time; bottle while fermenting. This makes an excellent imitation of champagne with age.

75. CURRANT AND OTHER FRUIT WINES

For currant, cherry, raspberry, elderberry, strawberry, whortleberry, and wild grape wines, any one can be used alone, or in combination of several of the different kinds; to make a variety of flavours, or suit persons who have some and not the other kinds of fruits, to every gallon of expressed juice, add 2 galls. of soft water, put in 6 or 8 lbs. of brown sugar, and 1 1/2 oz. of cream of tartar, have them dissolved; put 1 quart of brandy to every 6 galls. Some prefer it without brandy. After fermentation, take 4 oz. isinglass, dissolved in a pint of the wine, put to each barrel, and it will refine and clear it; then it must be drawn off into clear casks, or bottled, which is far the best. Give these wines age and they are most delicious.

76. DINNER WINE OR ENGLISH PATENT WINE

From garden rhubarb, which will not lend to intemperance. An agreeable and healthy wine is very frequently made from the expressed juice of the garden rhubarb. To each gallon of juice add 1 gallon of soft water, in which 7 lbs. of brown sugar have been dissolved; fill a keg or barrel with this proportion, leaving the bung out, and keep it filled with sweetened water as it works off until clear. Any other vegetable extract may be added, if this flavour is not liked. Then bung down, or bottle, as you desire. These stalks will furnish about 3/4 their weight in juice; fine and settle with isinglass, as in the fruit wines. This has been patented in England.

77. VARIOUS WINES

Take 28 gallons of clarified cider; 1 gallon geed brandy, 1 lb. crude tartar, (this is what is deposited by grape wines) 5 gallons of any wine you wish to represent, 1 pint of sweet milk to settle it; draw off in 24 or 36 hours after thoroughly mixing.

78. BLACKBERRY AND STRAWBERRY WINES

These are made by taking the above wine when made with port wine; and for every 10 gallons, form 4 to 6 quarts of the fresh fruit, bruised and strained, are added, and let it stand till the flavour is extracted; more or less may be used to suit the tastes of different persons. In bottling any of those wines 3 or four broken raisins put into each bottle will add to their richness and flavour.

79. FRENCH BRANDY

Take of pure spirit 1 gallon, best French brandy, or any kind you wish to imitate, even Otard, 1 quart; loaf sugar 2 oz., sweet spirits of nitre 1/2 oz., a few drops of tincture of catechu, or oak bark, to roughen the taste if desired; colour to suit your taste, and bottle.

80. BRANDY FROM OIL COGNAC

Take of pure spirits 10 gallons, New England rum 2 quarts, or Jamaica rum 1 quart, and oil cognac from 30 to 40 drops, put in half a pint of alcohol, colour with tincture of kino, or burned sugar, which is generally preferred. Mix well and bottle.

81. PALE BRANDY

This is made as the French brandy, using pale instead of the French, and using 1 oz. of tincture of kino for colour, only for 5 gallons.

82. CHERRY BRANDY.

To every 10 gallons of brandy add 3 quarts of wild black cherries, stones and all bruised, and crushed sugar 2 lbs. Let it stand until the strength and flavour is obtained, and draw from it as wanted for use. Never attempt to use oil of bitter almonds for this purpose, instead of the cherries, for it is a most deadly poison.

83. BLACKBERRY BRANDY.

Take of brandy 10 gallons, nice rich blackberries mashed from 4 to 6 quarts, according to the degree of flavour you wish. Mix and add a little sugar to overcome the acidity of the berries, according to their ripeness will the amount vary from one to 4 oz. to each gallon.

84. STRAWBERRY BRANDY.

This is made as the above, using very nice ripe strawberries, and only about half the quantity of sugar.

RECEIPTS Nos. 85, 86 & 87 NOT PRINTED.

88. HOLLAND GIN.

Take of pure spirits 1 gallon, best Holland gin, schnapps, or any kind desired, 1 quart, oil of juniper 2 scruples, oil of anise 1/4 oz.; mix all well together.

89. COLOURING.

Take of white sugar 1 lb., put it into an earthen kettle, moisten a little, let boil, and burn red, black and thick, remove from the fire and put in a little hot water to keep it from hardening as it cools. Use this to colour any liquors, needing colour, to your taste, or as near the colour of the liquor you imitate as you can. Tincture of kino is a good colour, and is made by dissolving 1 oz. of kino in a pint of alcohol. For a cherry red use tincture of saffron; for light amber to deep brown use sugar colouring; for brandy colour, sugar; for red use beet root or saunders; for port wine colour use extract of rhatany.

90. TO KEEP SWEET AND SWEETEN SOUR CIDER.

To keep cider sweet take a keg, put several holes in the bottom of it, and a piece of woollen cloth at the bottom, then fill with pure sand closely packed, then pass your cider through this, and put up in clean barrels that have had a piece of cotton or linen cloth 2 by 6 inches, dipped in sulphur, and burned in them, then keep in a cool place and add 1/2 lb. of white mustard seed to each barrel. If cider is souring, about 1 quart of hickory ashes, (or a little more of other hard wood ashes), stirred into each barrel, will sweeten and clarify it, nearly equal to rectifying; but if it is not rectified it must be racked off to get clear of pomace, for while this is in it, it will remain sour. Oil or whiskey barrels are best to put up cider in, or 1/2 pint of sweet oil, or a gallon of whiskey, or both may be added to a barrel with decidedly good effects. Isinglass 4 oz. to each barrel helps to clarify and settle cider that is not going to be rectified.

91. SCHRUB.

Take of lemon juice 1 pint, white sugar 2 pints, rum 3 pints, water 4 pints; mix and colour ready for use.

92. STOUGHTON BITTERS.

Take of gentian 4 oz., orange peel 4 oz., columbo 4 oz., chamomile flowers 4 oz., quassia 4 oz., burned sugar 1 lb., whiskey 2 1/2 galls., water 2 1/2 galls.; mix and let stand one week, then bottle the clear liquor.

93. TO IMPROVE THE FLAVOUR OF NEW WHISKEY.

Take of whiskey 1 gall., add tea 4 oz., allspice 4 oz., caraway seed 4 oz., cinnamon 2 oz., shake occasionally for a week and use one pint to a barrel. Keep this mixture in a jug.

94. CHERRY BOUNCE OR BRANDY.

Take 10 galls. of good whiskey, put into it from 4 to 6 quarts of wild black cherries with the stones broken, common almonds shelled 1 lb., white sugar 1 1/2 lb., cinnamon 1/2 oz., nutmeg 1/2 oz., all bruised. Let stand 12 or 13 days and draw off; this, with the addition of 2 galls. of brandy, make very nice cherry brandy.

95. MONONGAHALE.

Take of good common whiskey 36 gall., dried peaches 2 quarts, rye, burned and ground as coffee, 1 quart, cinnamon, cloves, and allspice, bruised, of each 1 oz., loaf sugar 5 lbs., sweet spirits of nitre 2 oz., put all these articles into 4 galls. of pure spirits, and shake every day for a week, then draw off through a woollen cloth, and add the whole to the 36 galls. of whiskey.

96. RYE WHISKEY.

Take of dried peaches 1/2 a peck, put them into a pan in a stove, scorch a little, not to burn however, then bruise, and place in a woollen (pointed) bag, and leach good common whiskey over them twice, having the barrel up so as to hang the bag under the faucet and draw slowly over them; this is for a barrel. Add 10 or 12 drops of aqua ammonia to each barrel, after leaching through the peaches; with age this is nearly, if not quite, equal to whiskey made from rye.

97. STOMACH BITTERS.

Take of gentian root 6 oz., orange peel 10 oz., cinnamon 1 oz., anise seed 2 Oz., coriander seed 2 oz., cardamom seed 1/2 oz., Peruvian bark, unground, 2 oz., bruise all the articles and add of gum kino 1 oz.,

and put them into 2 quarts of alcohol, and two quarts of pure spirits or good whiskey; shake occasionally for 10 or 12 days, and strain or filter through several thicknesses of woollen. Half a pint of this may be added to a gallon of whiskey, more or less, as desired, and you have an article as good, or better, and more healthy than that for which you will pay three times as much; or you may use it the same as stoughton, to which it is preferred.

98. PEPPERMINT CORDIAL.

Take of good whiskey 10 galls., water 10 galls., white sugar 10 lbs., oil of peppermint 1 oz., flour 1 oz., burned sugar 1/2 lb. to colour, alcohol 1 pint; put the oil of peppermint in the alcohol, then with this work the flour well, add the burned sugar, work again, and mix all the ingredients together; let them stand a week and they are ready for use. If you wish a different flavour from that of oil of peppermint use any other oil of which you desire the flavour.

99. ST. CROIX RUM.

Take of pure spirits 28 galls., of pure St. Croix rum 3 galls., sal ammonia (cut in alcohol) 1 OZ., sweet spirits of nitre 6 ozs., mix all together and let stand for 24 hours, occasionally shaking, and it is ready for use.

100. LEMONADE.

Take of fresh lemon juice 4 oz., fresh lemon peel 1/2 oz., white sugar 4 oz., boiling water 3 pints; mix all together; let them stand till cool, and then strain off for use; if you wish you can cool at once with ice. Where this is used as a cooling drink in fevers a little sweet spirits of nitre may be added.

101. A BRILLIANT WHITEWASH.

This bears a gloss like ivory, and will not rub off. Take of clean unslacked lime 5 or 6 quarts, slack with hot water in a tub, cover to keep in the steam; when ready, pass it through a fine sieve, and add 1/4 lb. of whiting, 1 lb. of good sugar pulverized, and 3 pints of rice flour, first made into a thin paste; boil this mixture well, then dissolve 1 lb. of clean glue in water, and add it to the mixture, and apply while warm with a whitewash brush, except when particular neatness is required you may then use a paint brush; in both cases put it on warm. You may add colouring matter to give it any shade you please.

102. CHANGING VARNISHES.

Varnishes of this description are call changing because, when applied to metals such as copper, brass, or tin or silver foil, they give them a more agreeable colour; indeed, the common metals, when coated with them acquired a lustre approaching to that of the precious metals, and hence these varnishes are much employed in manufacturing imitations of gold and silver. Put four ounces of the best gum gamboge into

32 ozs. of spirits of turpentine, 4 ozs. of dragon's blood into the same quantity of spirits of turpentine as the gamboge, and 1 oz. of anatto into 8 ozs. of the same spirits. The three mixtures being made in different vessels, they should then be kept for about a fortnight in a warm place, and as much exposed to the sun as possible; at the end of that time they will be fit for use; and you can procure any tints you wish by making a composition from them, with such proportions of each liquor as practice and the nature of the colour you are desirous of obtaining will point out. Changing varnishes may likewise be employed, with very good effect, for furniture, such as picture frames, &c. - See Lackers.

103. GOLD LACKER OR VARNISH.

In using the changing varnish or any of these lackers, for picture frames for instance, lay them over with tin or silver foil, by means of plaster of Paris glue, or cement of some kind, that the foil may be perfectly adherent to the wood, then apply your varnish; apply as many coats as may suit your taste, and if it be the gold lacker you use it has the appearance of being laid with gold leaf, and if the pale brass lacker, of being laid with brass, &c., and if you use the changing varnish you may make it just what colour you wish, by mixing the three materials in different proportions. For making gold lacker, put into a clean 4 gallon tin 1 lb. ground turmeric, 1 1/2 oz. powdered gamboge, 3 1/2 lbs. powdered gum sandrack, 3/4 lb. shellac, and 2 galls. spirits of wine; after being dissolved and strained add 1 pint of turpentine varnish, receipt No.112, well mixed, and it is ready for use.

104. RED SPIRIT LACKER.

Take 2 galls. spirits of wine, 1 lb. dragon's blood, 3 lbs. Spanish annatto, 3 1/2 lbs. gum sandrack, 2 pints turpentine. Made exactly as the gold lacker.

105. PALE BRASS LACKER.

Take 2 galls. spirits of wine, 3 ozs. cape aloes, cut small, 1 lb. fine pale shellac, 1 oz. gamboge, cut small, no turpentine. Varnish made exactly as before, but observe, that those who make lackers frequently want some paler and some darker and sometimes inclining more to the particular tint of certain of the component ingredients; therefore if a 4 oz. vial of a strong solution of each ingredient be prepared, a lacker of any tint can be prepared at any time as by changing varnish.

106. DEMAR VARNISH.

This is a fine clear varnish, being harder and less coloured than mastic, while it is as soluble, and may be had at one-tenth the price. Put 6 oz. of gum demar in a bottle with 10 ozs. of spirits of turpentine, and put into another bottle 6 ozs. of gum demar, with 16 ozs. alcohol, when they are dissolved put them together, and you have an excellent cheap varnish which dries quickly and is very clear.

107. COPAL VARNISH.

Take 1 oz. of copal, and 1/2 oz. of shellac, powder them well and put them into a bottle or jar containing 1 quart of spirits of wine; place the mixture in a warm place and shake it occasionally, till you see that the gums are completely dissolved, and when strained the varnish is fit for use.

108. WHITE HARD VARNISH.

Take 1 lb. of mastic, 4 oz. of gum anima; and 5 lbs. of gum sandracc, put them all together to dissolve, into a vessel containing 2 oz. of rectified spirits of wine, which should be kept in a warm place and frequently shaken till all the gums are quite dissolved; then strain the mixture through a lawn sieve, and it will be fit for use.

109. CRYSTAL VARNISH.

Procure a bottle of Canada balsam, which can be had at any druggist's; draw out the cork and set the bottle of balsam at a little distance from the fire, turning it round several times, until the heat has thinned it; then have something that will hold as much as double the quantity of balsam; carry the balsam from the fire, and, while fluid mix it with the same quantity of good turpentine, and shake them together until they are well incorporated. In a few days the varnish is fit for use, particularly if it is poured into a half gallon glass or stone bottle, and kept in a gentle warmth. This varnish is used for maps, prints, charts, drawings, paper, ornaments, &c.

110. BLACK VARNISH FOR OLD STRAW OR CHIP HATS.

Take a 1/2 oz. of the best black sealing wax, pound it well, and put it into a 4 oz. vial, containing 2 ozs. of rectified spirits of wine; place it in a sand-bath or near a moderate fire till the wax is dissolved, then lay it on warm, with a fine soft hairbrush, before a fire or in the sun. It gives a good stiffness to old straw hats, and a beautiful gloss equal to new. It likewise resists wet.

111. VARNISH FOR VIOLINS &c.

Take 1 gallon of rectified spirits of wine, 12 ozs. of mastic, and 1 pint of turpentine varnish; put them altogether in a tin can, and keep it in a very warm place, shaking it occasionally till it is perfectly dissolved; then strain it, and it is fit for use. If you find it necessary, you may dilute it with turpentine varnish. This varnish is also very useful for furniture of plumbtree, mahogany, or rosewood.

112. TURPENTINE VARNISH.

Take 5 lbs. of clear good resin, pound it well, and put it into 1 gallon of oil of turpentine; boil the mixture over a stove till the resin is perfectly dissolved, and when cool, it will be fit for use.

113. IRON WORK BLACK OR BLACK VARNISH FOR IRON.

Put 48 lbs. asphaltum into an iron pot, and boil for four hours; during the first two hours, introduce 7 lbs. litharge, 3 lbs. dried copperas, and 10 gallons boiled oil; add 1/8 lb. run of dark gum, with 2 gallons hot oil; after pouring the oil and gum, continue the boiling two hours, or until it will roll into hard pills like Japan; when cool, thin it off with three gallons of turpentine, or until it is of proper consistence. This varnish is intended principally for the iron work of coaches and other carriages.

114. VARNISH FOR HARNESS.

Take 1/2 lb. of india rubber, 1 gallon of spirits of turpentine; dissolve enough to make it into a jelly by keeping it almost new milk warm; then take equal quantities of good linseed oil, (in a hot state,) and the above mixture, incorporate them well on a slow fire, and it is fit for use.

115. QUICK DRYING HARNESS BLACKING VARNISH.

Break 1/2 cake (which is about 1 ounce) of white wax into an earthen pan, and just cover it with oil of turpentine; place a board over the pan to keep out the air; let it stand for 24 hours or until formed into a paste; then in another pan, mix 1 lb. of best ivory black with neatsfoot oil, until it assumes a thick consistency; then mix the contents of both pans together. It may be reduced with spirits of turpentine. Bottle, and it is fit for use.

116. OIL PASTE BLACKING.

Take oil vitriol, 2 ozs., tanners oil, 5 ozs., ivory black, 2 lbs., molasses, 5 ozs; mix the oil and vitriol together, let it stand a day, then add the ivory black, the molasses, and the white of an egg; mix well, and it is ready for use.

117. WATER PROOF OIL OR PASTE BLACKING.

Take 1 pint of camphene, and put into it all the india rubber it will dissolve, 1 pint currier's oil, 7 lbs. tallow, and 2 ozs. of lampblack; mix thoroughly by heat. This is a nice thing for old harness and carriage tops, as well as for boots and shoes.

118. BEST VARNISH BLACKING EXTANT.

Take of alcohol, 1 gallon; white turpentine, 1 1/2 lbs.; gum shellac 1 1/2 lbs.; venice turpentine, 1 gill; let these stand in a jug in the sun, or by a stove, until the gums are dissolved; then add sweet oil, 1 gill; lampblack, 2 oz., and you have a varnish that will not crack when the harness is twisted like the old shellac varnish. It is good also for boots and shoes, looking well, and turns water.

119. ASPHALTUM OR WALNUT STAIN.

Take of asphaltum, 2 lbs.; boiled linseed oil, 1/2 pint; spirits of turpentine, 1 gallon; mix the two first in

an iron pot, boil slowly until the asphaltum is melted, then take it some distance from the fire, cool a little, and add the turpentine (avoiding ignition) before it cools too much, and it is finished.

120. POLISH FOR OLD FURNITURE.

Take 1 pint best spirits of wine, 1 pint raw linseed oil, 1 pint spirits of turpentine; mix all three together, and shake well before use. Apply with a rubber of cotton wool covered with a piece of clean old white cotton cloth. Apply slightly and you will be astonished at the effect. Old furniture that is scratched, soiled, or stained, if the wood is not torn up, being polished with this, has the appearance of new.

121. OIL TO MAKE THE HAIR GROW AND CURL.

Take of olive oil 1/2 a pint, oils of rosemary and origanum, of each 1/8 of an oz. Mix well and apply rather freely.

122. BEST SHAVING SOAP.

Take 4 1/2 lbs. white bar soap, 1 quart rain water, 1 gill of beef's gall, and 1 gill spirits of turpentine; cut the soap thin, and boil five minutes, stir while boiling, and colour with 1/2 oz. of vermilion; scent with oil of rose or almonds. 10 cents worth will positively make \$6 worth of soap.

123. NEW YORK BARBERS' STAR HAIR OIL.

Take of castor oil, 6 1/2 pints; alcohol, 1 1/2 pint; citronella and lavender oils, of each 2 ozs.; mix and shake well, and it is ready for use.

124. ROWLAND'S MACASSAR HAIR OIL.

Take of sweet oil, 8 ozs.; cantharides and oil of lemon, of each 60 drops; alkanet sufficient to colour it.

125. ROSE HAIR OIL.

Take 1 quart olive oil, 2 1/2 ozs. alcohol, 1 1/2 ozs. rose oil; after this tie 1 oz. of chipped alkanet root in 3 or 4 little muslin bags, and let them lie in the oil until a pretty red is manifested, then change them to other oil. do not press them.

126. BEAR'S OIL.

Take of good sweet lard oil, 1 quart; bergamot, 1 ounce; mix well together

127. OX MARROW FOR THE HAIR.

Take of ox marrow, 4 ozs.; white wax, 1 oz.; nice fresh lard, 6 ozs; mix and melt; when cool, add 1 1/2 ozs. oil of bergamot, and mix well.

128. COLOGNE.

Take oils of rosemary and lemon, of each, 1/4 oz.; oils of bergamot and lavender, of each, 1/8 oz.; oil of cinnamon, 8 drops; oils of cloves and rose, of each 15 drops; best alcohol, 2 quarts; mix and shake 2 or 3 times a day for a week. This will be better if deoderized, or cologne alcohol is used.

129. HARD SOAP.

Take of soft soap, 12 lbs.; (that made of olive oil is best,) common salt, 9 lbs.; mix and boil for 2 hours, run it into bars, or as you want it, and you will have 7 1/2 lbs. of soap. Add a little resin when you melt it over. Scent with fragrant oil if you wish to do so.

130. BAR SOAP.

Take of lime water 1 teacupful, spirits of turpentine 2 teaspoonsful, resin 1/2 lb., sal. soda 1 1/2 lbs., of bar shop soap 4 lbs.; melt and boil all together to a proper consistency, then pour into moulds.

131. CARVER'S POLISH.

In a pint of spirits of wine dissolve 2 oz. of seed lac, and 2 oz. of resin. The principal use of this polish is for the carved parts of cabinet work, such as standards, pillars, claws, &c. It should be laid on warm, and it will be still better; but all moisture and dampness should be carefully avoided.

132. FRENCH POLISH.

Take 1 oz. of shellac, 1/4 oz. of gum-arabic, and 1/4 oz. of gum copal; bruise them well, and sift them through a piece of muslin, then put them along with a pint of spirits of win into a closely corked vessel, place it in a very warm situation, and shake it frequently every day till the gums are dissolved, then strain through a piece of muslin, and keep it corked for use.

133. WATER-PROOF POLISH.

Put 2 ozs. of gum benjamin, 1/4 oz. of gum sandrac, and 1/4 oz. of gum anima, into a pint of spirits of wine, in a closely stopped bottle, place the bottle either in a sand bath, or in hot water, till the gums are dissolved, then strain off the mixture, shake it up with a 1/4 of a gill of the best clear poppy oil, and put by for use.

134. FINISHING POLISH.

Put 2 drachms of shellac, and 2 drachms of gum benjamin, into 1/2 pint of the very best rectified spirits of wine, in a bottle closely corked; keep the bottle in a warm place, and shake it frequently till the gums are dissolved, when cold shake up with it 2 teaspoonsful of the best clear poppy oil, and it will be fit for use. This polish may be applied with great advantage after any of those mentioned in the foregoing receipts have been used. It removes the defects existing in them, increasing their lustre and durability, and gives the surface a most brilliant appearance.

135. COMPOSITION USED IN WELDING CAST STEEL.

Take of borax, 10 parts; sal-ammoniac, 1 part; grind or pound them roughly together, then fuse them in a metal pot over a close fire, taking care to continue the heat until all spume has disappeared from the surface, when the liquid appears clear, the composition is ready to be poured out to cool and concrete; afterward being ground to a fine powder. To use this composition, the steel to be welded is raised to a heat, which may be expressed by bright yellow, it is then dipped among the welding powder, and again placed in the fire until it attains the same degree of heat as before, it is then ready to be placed under the hammer.

136. COMPOSITION USED IN WELDING CAST IRON.

Take good clear white course sand, 3 parts; refined solton, 1 part; fosterine, 1 part; rock salt 1 part; borax, 1 part; mix all together. Take 2 pieces of cast iron, heat them in a moderate charcoal fire, occasionally taking them out while heating, and dipping them into the composition, until they are of a proper heat to weld, then at once lay them on the anvil, and gently hammer them together, and if done carefully by one who understands welding iron, you will have them nicely welded together. One man prefers heating the metal, then cooling it in the water of common beans, and heating it again for welding.

137. CAST IRON CEMENT.

Take of clean borings or turning of cast iron, 16 parts; of sal-ammoniac, 2 parts; and flour of sulphur, 1 part; mix them well together on a mortar, and keep them dry. When required for use, take 1 part of the mixture, and 20 parts of clean borings, mix thoroughly, and add a sufficient quantity of water. Note. - A little grindstone added improves the cement.

138. CASE HARDENING.

This is the conversion of the surface of wrought iron into steel, for the purpose of adapting it to receive a polish, or to bear friction, &c. The best method in the world of effecting this is by heating the iron to cherry red in a close vessel, in contact with carbonaceous material, and then plunging it into cold water. Bones, leather, hoofs, and horns of animals, are best for this purpose, after having been burnt or roasted, so that they can be pulverized. Soot is very frequently used; it answers, but not so well.

139. TO SOFTEN IRON OR STEEL.

Either of the following simple methods will make iron or steel as soft as lead: - 1. Anoint it all over with tallow, temper it in a gentle charcoal fire, and let it cool of itself. 2. Take a little clay, cover your iron with it, temper in a charcoal fire. 3. When the iron or steel is red hot, strew hellebore on it. 4. Quench the iron or steel in the juice, or water, of common beans.

140. SOLDER FOR LEAD.

Melt 1 part of block tin, and when in a state of fusion, add 2 parts of lead; if a small quantity of this, when melted, is poured upon the table, there will, if it be good, arise little bright stars upon it. Resin should be used with this solder.

141. SOLDER FOR TIN.

Take 4 parts of pewter, 1 of tin, and 1 of bismuth, melt them together, and run them into thin slips. Resin is also employed in using this solder.

142. SOLDER FOR IRON.

The best solder for iron is good tough brass, with a little borax.

143. SOLDER FOR COPPER.

Take of brass, 6 parts; zinc, 1 part; tin, 1 part; melt all together, mix well, and pour out to cool.

144. SOLDER FOR STEEL JOINTS.

Silver, 19 parts; copper, 1 part; brass, 2 parts; melt all together.

145. HARD SOLDER.

Fuse together 2 parts of copper, and 1 of zinc.

146. SOLDER FOR SILVER.

Fuse together 5 parts of silver, and 1 part of brass.

147. GOLD SOLDER No. 1.

Take of gold, 4 parts; silver, 3 parts; copper 1 part; and zinc, 1 part.

148. GOLD SOLDER No. 2.

Take of gold, 3 parts; silver, 3 parts; copper, 1 part; zinc, 1/2 part.

149. GOLD SOLDER No. 3.

Take of gold, 2 parts; silver, 3 parts; copper, 1 part; and zinc 1/2 a part. The gold, silver, and copper must be fused in a crucible before the zinc is added, or else you cannot keep them in the vessel while heating. When all are completely fused, they must be well stirred, and run into bars. Solder No.1 is for gold 16 carats and upwards; No.2 is for that 14 carats fine; and No.3 for lower qualities. If more zinc is added, it will fuse at a lower heat, but the colour is not so good.

150. MOCK GOLD.

Fuse together 16 parts of copper, 7 of platinum, and 1 of zinc. When steel is alloyed with 1/500 part of platinum, or with 1/500 part of silver, it is rendered much harder, more malleable, and better adapted for all kinds of cutting instruments. Note. - In making alloys, care must be taken to have the more infusible metals melted first, and afterwards add the others.

151. BRITANNIA METAL.

Take 4 parts of brass, and 4 parts of tin; when fused add 4 parts of metallic bismuth, and 4 parts of metallic antimony. This composition is added at discretion to metallic tin, according to the quality you wish to make.

152. BLANCHED COPPER.

Melt together 8 parts of copper and a half part of arsenic.

153. COMMON PEWTER.

Melt together 4 parts of tin and 1 part of lead.

154. BEST PEWTER.

Melt together 100 parts of tin and 17 of antimony.

155. A METAL THAT EXPANDS IN COOLING.

Melt together 9 parts of lead, 2 of antimony and one of bismuth. This metal is very useful in filling small defects in iron castings, &c.

156. QUEEN'S METAL.

Melt together 9 parts of tin, 1 of antimony, 1 of bismuth, and 1 of lead

157. IMITATION PLATINUM.

This metal, or alloy, very closely resembles platinum. Melt together 8 parts of brass and 5 parts of zinc.

158. CHINESE WHITE COPPER.

Melt together 40.4 parts of copper, 31.6 parts of nickel, 25.4 of zinc, and 2.6 of iron.

159. MANHEIM GOLD.

Melt together 3 parts copper, 1 of zinc, and a little tin.

160. TOMBACK, OR RED BRASS.

Melt together 8 parts of copper, and 1 part of zinc.

161. IMITATION GOLD.

Take of platina 8 parts, of silver 4 parts, copper 12 parts, melt all together.

162. IMITATION SILVER.

Take of block tin 100 parts, metallic antimony 8 parts, bismuth 1 part, and 4 parts of copper; melt all together.

163. TRUE IMITATION OF GOLD.

Dr. Harmsteadt's imitation of gold, which is stated not only to resemble gold in colour, but also in specific gravity and ductility, consists of 16 parts of platinum, 7 parts of copper, and 1 of zinc, put in a crucible, covered with charcoal powder, and melted into a mass.

164. TRUE IMITATION OF SILVER.

Imitation of pure silver, so perfect in its resemblance that no chemist living can tell it from pure virgin silver. It was obtained from a German chemist now dead; he used it for unlawful purposes to the amount of thousands, and yet the metal is so perfect that he was never discovered. It is all melted together in a crucible, here it is: 1/4 oz. of copper, 2 oz. of brass, 3 oz. of pure silver, 1 oz. of bismuth, 2 ozs. of saltpetre, 2 ozs. of common salt, 1 oz. of arsenic, and 1 oz. of potash.

165. MOULDS AND DIES.

Take copper, zinc, and silver, in equal proportions, and melt them together, and mould into the forms you desire, and bring the same to a nearly white heat; now lay on the thing that you would take the impression of, and press it with sufficient force, and you will find that you have a perfect and beautiful impression. All of the above metals should be melted under a coat of powdered charcoal.

166. TO SOFTEN HORN.

To 1 lb. of wood ashes, add 2 lbs. of quicklime; put them into a quart of water, let the whole boil till reduced to one third, then dip a feather in, and if, on drawing it out, the plume should come off, it is a proof that it is boiled enough, if not, let it boil a little longer; when it is settled filter it off, and in the liquor thus strained put in shavings of horn; let them soak for three days, and, first anointing your hands with oil, work the horn into a mass, and print or mould it into any shape you please.

167. TO MAKE MOULDS OF HORN.

If you wish to take the impression of any coin, medal, &c., previously anoint it with oil, then lay the horn shavings over it in its softened state; when dry the impression will be sunk into the horn, and this will serve as a mould to reproduce, either by plaster of Paris, putty and glue, or isinglass and ground egg shells, the exact resemblance of the coin or medal.

168. TO CASE FIGURES IN IMITATION OF IVORY.

Make isinglass and strong brandy into a paste, with powder of egg shells, very finely ground; you may give it what colour you please, but cast it warm into your mould, which you previously oil over; leave the figure in the mould till dry, and you will find, on taking it out, that it bears a very strong resemblance to ivory.

169. TRUE GOLD POWDER.

Put some gold leaf, with a little honey or thick gum water, (whenever I speak of gum I mean gum arabic,) into an earthen mortar, and pound the mixture till the gold is reduced to very small particles; then wash out the honey or gum repeatedly with warm water, and the gold will be left behind in a state of powder, which, when dried, is fit for use.

170. TRUE GOLD POWDER.

Another, and perhaps better method of preparing gold powder is to heat a prepared amalgam of gold in a clean open crucible, (an amalgam of any metal is formed by a mixture of quicksilver with that metal) continuing a very strong heat till all the mercury has evaporated, stirring the amalgam all the while with a glass rod; when the mercury has entirely left the gold, grind the remainder in a Wedgewood's mortar, with

a little water, and when dried it will be fit for use. The subliming the mercury is, however, a process injurious to the health.

171. COLOUR HEIGHTENING COMPOSITIONS.

For yellow gold, dissolve in water 6 ozs. of saltpetre, 2 ozs. of copperas, 1 oz. of white vitriol, and 1 oz. of alum. If wanted redder, add a small portion of blue vitriol.

172. FOR GREEN GOLD.

Dissolve in water a mixture consisting of 1 1/2 oz. of saltpetre; vitriol and sal-ammoniac, 1 1/4 oz. of each, and 1 oz. verdigris.

173. FOR RED GOLD.

Take 1 1/2 oz. of red ochre in fine powder, the same quantity of calcined verdigris, 1/2 oz. of calcined borax, and 4 oz. of melted yellow wax; the verdigris must be calcined, or else, by the heat applied in melting the wax, the vinegar becomes so concentrated as to corrode the surface, and make it appear speckled. These last three are colours for heightening compositions.

174. MOSAIC GOLD.

Mosaic gold, or aurum mosaicum, is used for inferior articles. It is prepared in the following manner: 1 lb. of tin is melted in a crucible, and 1/2 lb. of purified quicksilver added to it; when this mixture is cold, it is reduced to powder, and ground with 1/2 lb. of sal ammoniac, and 7 ozs. of flower of sulphur, till the whole is thoroughly mixed; they are then calcined in a matrass, and the sublimation of the other ingredients leaves the tin converted into the aurum mosaicum, which is found at the bottom of the glass, like a mass of bright flakey gold powder. Should any black or discoloured particles appear, they must be removed. The sal-ammoniac used here must be very white and clear, and the mercury quite pure and unadulterated. When a shade of deeper red is required, it can easily be obtained by grinding a very small quantity of red lead along with the above materials.

175. DUTCH OR GERMAN GOLD.

A gilding powder is sometimes made from Dutch gold, which is sold in books at a very low price. This is treated in the same way as the real gold leaf in making the true gold powder. It is necessary, when this inferior powder is used, to cover the gilding with a coat of clear varnish, otherwise it soon loses its metallic appearance. The same remark applies, though to a less degree, to Mosaic gilding.

176. COPPER POWDER.

This is prepared by dissolving filings or slips of copper with nitrous acid in a receiver. When the acid is

saturated, the slips are to be removed; or, if filings be employed, the solution is to be poured off from what remains undissolved; small bars are then put in, which will precipitate the copper from the saturated acid, in a powder of the peculiar appearance and colour of copper, and the liquid being poured from the powder, this is to be washed clean of the crystals by repeated levigations.

177. COMMON SIZE.

The size used by painters for most sorts of common work is prepared by boiling in water pieces of parchment, and of the skins of animals and fins of fish, and evaporating the solution to a proper consistency. It only differs, however, from a solution of glue containing fewer foreign ingredients, and in not being so strong.

178. DR. JOHN'S VARNISH FOR PLASTER OF PARIS CASTS.

Take of white soap and white wax, each half an ounce, of water two pints; boil them together for a short time in a clean vessel. This varnish is to be applied when cold, by means of a soft brush. It does not sink in, it readily dries, and its effect may be heightened by lightly using a silk pocket handkerchief.

179. GENERAL DIRECTIONS FOR BRONZING.

This art is nothing but a species of painting, but far from being of the most delicate kind. The principal ingredients made use of in it are the true gold powder, the German gold, the aurum mosaicum, and copper powder, (all above described.) The choice of these powders is, of course, to be determined by the degree of brilliancy you wish to obtain. The powder is mixed with strong gum water or isinglass, and laid on with a brush or pencil; and when not so dry as to have still a certain clamminess, a piece of soft leather wrapped round the finger, is dipped in the powder and rubbed over the work; when the work has been all covered with the bronze, it must be left to dry, and any loose powder then cleared away by a hair pencil.

180. BRONZING IN WOOD.

This may be effected by a process somewhat differing from the above, Prussian blue, patent yellow, raw amber, lamp-black, and pipe clay are ground separately with water on a stone, and as much of them as will make a good colour put into a small vessel three-fourths full of size. This mixture is found to succeed best on using about half as much more pipe clay as of any of the other ingredients. The wood being previously cleaned and smoothed, and coated with a mixture of clean size and lamp-black, receives a new coating with the above compound twice successively, having allowed the first to dry. Afterwards the bronze powder is to be laid on with a pencil, and the whole burnished or cleaned anew, observing to repair the parts which may be injured by this operation; next, the work must be coated over with a thin lather of castile soap, which will take off the glare of the burnishing, and afterwards be carefully rubbed with a woollen cloth. The superfluous powder may be rubbed off when dry.

181. IN BRONZING IRON.

The subject should be heated to a greater degree than the hand can bear; and German gold, mixed with a small quantity of spirit of wine varnish, spread over it with a pencil; should the iron be already polished, you must heat it well and moisten it with a linen rag dipped in vinegar.

182. BRONZING CASTS OF PLASTER OF PARIS.

There is a method of bronzing casts of plaster of Paris analogous to that which we have above given for bronzing wood, but it is not in much repute. Such figures may be beautifully varnished by means of Dr. John's varnish, receipt No.178. Casts of plaster of Paris may be made by receipt No.167.

183. SHELL-LAC VARNISH.

Dissolve in an iron kettle, one part of pearl-ash in about 8 parts of water; add one part of shell-lac, and heat the whole to ebullition. When the lac is dissolved, cool the solution, and impregnate it with chlorine, till the lac is all precipitated. The precipitate is white, but its colour deepens by washing and consolidation; dissolved in alcohol, lac bleached by the above process yields a varnish which is as free from colour as any copal varnish.

184. CHLORINE FOR SHELL-LAC VARNISH.

This may be formed by mixing intimately eight parts of common salt, and three parts of the black oxide of manganese in powder; put this mixture into a retort, then pour four parts of sulphuric acid, diluted with an equal weight of water, and afterwards allowed to cool upon the salt and manganese; the gas will then be immediately liberated, and the operation may be quickened by a moderate heat. A tube leading from the mouth of the retort must be passed into the resinous solution, where the gas will be absorbed, and the lac precipitated.

185. SHELL-LAC VARNISHES OF VARIOUS COLOURS.

These may be made by using any colour in fine powder with the varnish, in the following manner: rub up the colour with a little alcohol or spirits of turpentine till it becomes perfectly smooth, then put it into the cup with the varnish. Shell-lac varnish is the best spirit varnish we have, and may be made any colour by the above process.

186. GOLD OIL-COLOUR, OR SIZE.

The English method of preparing the colour in size, which serves as the ground on which the gold is laid, is, to grind together some red oxide of lead with the thickest drying oil that can be procured, the older the better. To make it work freely, it is mixed, before being used, with a little oil of turpentine, till it is brought to a proper consistence. The above four receipts are used in japanning.

187. JAPANNING.

If it be woodwork you are about to japan, it must be prepared with size, and some coarse material mixed with it to fill up and harden the grain of the wood, (such as may best suit the colour to be laid on,) which must be rubbed smooth with glass paper when dry. In cases of accident, it is seldom necessary to resize the damaged places, unless they are considerable.

188. GRINDING COLOURS IN JAPANING.

Be very careful in japaning, to grind your colours smooth in spirits of turpentine, then add a small quantity of turpentine and spirit varnish, lay it carefully on with a camel hair brush, and varnish it with brown or white varnish, according to the colour.

189. COLOURS REQUIRED IN JAPANING.

Flake white, red lead, vermilion, lake, Prussian blue, patent yellow, orpiment, orchres, verditers, vandyke brown, umber, lamp-black, and siennas raw and burnt. With these you may match almost any colour in general use in japaning. For a black japan, it will be found sufficient to mix a little gold-size with lamp-black; this will bear a good gloss, without requiring to be varnished afterwards.

190. TO PREPARE A FINE TORTOISE-SHELL JAPAN.

Take 1 gallon of good linseed oil, and 1/2 lb. of umber; boil them together till the oil becomes very brown and thick, then strain it through a coarse cloth, and set it again to boil; in which state it must be continued till it acquires a consistence resembling that of pitch; it will then be fit for use.

191. DIRECTIONS FOR USING TORTOISE-SHELL JAPAN.

Having thus prepared the varnish or japan, clean well the substance which is to be japped; then lay vermilion, tempered with shell-lac varnish, or with drying oil, very thinly diluted with oil of turpentine, on the places intended to imitate the more transparent parts of the tortoise-shell; when the vermilion is dry, brush the whole over with black varnish, tempered to a due consistence with the oil of turpentine. When set and firm, put the work into a stove, where it may undergo a very strong heat, which must be continued a considerable time; if even three weeks or a month it will be the better. This tortoise-shell ground is not less valuable for its great hardness, and enduring to be made hotter than boiling water without damage, than for the superior beauty and brilliancy of its appearance.

192. TO MAKE CLOTH, SILK &c., WATER-PROOF.

Mix equal quantities of alum and acetate of lead, and dissolve the mixture in 1 1/2 gallons of boiling water. When the solution has cooled, remove the supernatant liquid from the sediment, which consists of sulphate of lead, and is ready for use. Any article of dress, when well saturated in this liquid, and allowed to dry slowly, bears the action of boiling water, and does not permit it to pass through, although steam and air penetrate if freely.

193. CROCKERY CEMENT.

Dissolve 1 oz. of common salt in 1 quart of water, bring to a boil, and put in 1 1/4 lbs. gum shell-lac; when it shall have dissolved, pour into cold water, and work like wax; make into small sticks. This will make crockery as firm as a rock. Directions: - Warm the stick, apply it to the broken edges, then heat the edges, place them together and hold for a minute, and they are firm.

194. A CEMENT FOR CHINA, GLASS-WARE, &c.

Take a thick mucilage of gum arabic, and stir into it plaster of Paris to form a thick paste, apply to the edges with a brush, and press firmly together and confine them two or three days, and you will be astonished at their firmness.

195. ANGLER'S SECRET.

The juice of loveage or smellage mixed with any kind of bait, or a few drops of the oil of rhodium; India cockle, also, is sometimes mixed with flour dough, and sprinkled on the surface of still water. This intoxicates the fish, and makes him turn up on the top of the water, when he is taken and put in a tub of fresh water until he revives, when all is right; he may be eaten without fear; but this will destroy many fish.

196. MORELLA WINE.

Take the juice of morella or tame cherries, and to each quart put 3 quarts of water, and 4 lbs. of coarse brown sugar; let them ferment, and skim until worked clear; then draw off, avoiding the sediment at the bottom, bung up, or bottle, which is best for all wines, letting the bottles lie always on the side, either for wines or beers.

197. HAIR DYE.

No.1 Crystallised nitrate of silver, 1 drachm; soft water, 1 oz. No.2 Sulphide (sulphuret is the same) of potassium, 1 drachm; soft water, 1 oz.; wash the beard or hair with soap to remove oil, dry with a towel a little then apply No.1, and directly after it No.2, for a few minutes, alternately, using different tooth brushes for each No. Clear days are best on which to apply it. As soon as dry, wash out well with soap. Keep it from shirt bosoms and face, especially No.1, as it will make the face sore as well as colour it. If you do get it on the skin, cyanide (cyanuret is the same) of potassium, 1 drachm, to 2 ozs. of water, will take it off. This last is poison, however, and should not touch sore places, nor be left where children may get at it.

198. TALLOW CANDLES IN IMITATION OF WAX.

Purify melted mutton tallow by throwing in powdered quicklime, then add 2 parts of wax to 1 of tallow. A most beautiful article of candle, resembling wax, will be produced by the mixture. Dip the wicks in lime-water and saltpetre on making.

199. TO STAIN MUSICAL INSTRUMENTS A CRIMSON STAIN.

Take of ground Brazil, 1 lb.; water, 3 quarts; cochineal, 1/2 oz.; boil the Brazil in the water for an hour; then strain, and add the cochineal; then boil it gently for half-an-hour, when it will be fit for use. If you wish a scarlet tint, boil an ounce of saffron in a quart of water, and pass over the work before you stain it. The article must be very clean, and of firwood, or the best sycamore. When varnished over this stain it is most elegant.

200. A PURPLE STAIN FOR VIOLINS, &c.

Take of chipped logwood, 1 lb.; of water, 3 quarts; of pearl-ash, 4 ozs.; of indigo, pounded, 2 ozs.; put the logwood in the water, boil well for an hour, then add the pearl-ash and indigo, and when dissolved, you will have a beautiful purple.

201. A BLUE STAIN FOR VIOLINS, &c.

Take of oil of vitriol in a glass bottle, 1 lb.; put into it 4 ozs. of indigo, and precede as directed in dyeing.

202. GREEN STAIN FOR VIOLINS, &c.

Take of strong vinegar, 3 pints; of best verdigris, 4 ozs., ground fine; of sap green, 1/2 oz.; of indigo, 1/2 oz.; mix all together.

203. GENERAL DIRECTIONS FOR DYEING.

The materials should be perfectly clean; soap should be rinsed out in soft water; the article should be entirely wetted, or it will spot; light colours should be steeped in brass, tin or earthen; and, if set at all, should be set with alum. Dark colours should be boiled in iron, and set with copperas; too much copperas rots the thread.

204. FOR COLOURING SKY BLUE.

Get the blue composition; it may be had at the druggist's, or clothier's, for a shilling an ounce. If the articles are not white, the old colours should all be discharged by soap or a strong solution of tartaric acid, then rinsed; 12 or 16 drops of the composition, stirred into a quart-bowl of warm water, and strained if settlings are seen, will dye a great many articles. If you want a deeper colour, add a few drops more of the composition. If you wish to colour cotton goods, put in pounded chalk to destroy the acid, which is very

destructive to all cotton; let it stand until the effervescence subsides, and then it may be safely used for cotton or silk.

205. FOR LILAC COLOUR.

Take a little pinch of archil, and put some boiling hot water upon it, add to it a very little lump of pearlash. Shades may be altered by pearlash, common slat, or wine.

206. TO COLOUR BLACK.

Logwood and cider, boiled together in iron, water being added for the evaporation, makes a good durable black. Rusty nails or any bits of rusty iron, boiled in vinegar, with a small piece of copperas, will also dye black; so will ink powder, if boiled with vinegar. In all cases, black must be set with copperas.

207. TO DYE LEMON COLOUR.

Peach leaves, bark scraped from the barberry bush, or saffron, steeped in water, and set with alum, will colour a bright lemon, drop in a little gum-arabic to make the articles stiff.

208. TO DYE ROYAL PURPLE.

Soak logwood chips in soft water until the strength is out, then add a teaspoonful of alum to a quart of the liquid; if this is not bright enough, add more alum, rinse and dry. When the dye is exhausted, it will colour a fine lilac.

209. TO DYE SLATE COLOUR.

Tea grounds, boiled in iron vessels, set with copperas, makes a good slate colour. To produce a light slate colour, boil white maple bark in clear water, with a little alum. The bark should be boiled in brass utensils. The goods should be boiled in it and then hu [hung?]

210. TO DYE SCARLET.

Dip the cloth in a solution of alkaline or metallic salt, then in a cochineal dye, and let it remain some time, and it will come out permanently coloured. Another method: 1/2 lb. of madder, 1/2 oz. of cream tartar, and 1 oz. of marine acid to 1 lb. of cloth; put it all together, and bring the dye to a scalding heat; put in your materials, and they will be coloured in ten minutes. The dye must be only scalding hot. Rinse your goods in cold water as soon as they come from the dye.

211. TO COLOUR A BRIGHT MADDER.

For 1 lb. of yard or cloth, take 3 ozs. of madder; 3 ozs. of alum; 1 oz. of cream tartar; prepare a brass

kettle with two gallons of water, and bring the liquor to a steady heat, then add your alum and tartar, and bring it to a boil; put in your cloth, and boil it two hours; take it out, and rinse it in cold water; empty your kettle, and fill it with as much water as before; then add your madder; rub it in fine in the water before your cloth is in. When your dye is as warm as you can bear your hand in, then put in your cloth, and let it lie one hour, and keep a steady heat; keep it in motion constantly, then bring it to a boil fifteen minutes, then air and rinse it. If your goods are new, use 4 ozs. of madder to a lb.

212. TO COLOUR GREEN.

If you wish to colour green, have your cloth as free as possible from the old colour, clean, and rinsed; and, in the first place, colour it deep yellow. Fustic, boiled in soft water, makes the strongest and brightest yellow dye; but saffron, barberry-bush, peach-leaves, or onion-skins, will answer pretty well. Next take a bowlful of strong yellow dye, and pour in a great spoonful or more of the blue composition, stir it up well with a clean stick, and dip the articles you have already coloured yellow into it, and they will take a lively grass-green. This is a good plan for old bombazet-curtains, dessert-cloths, old flannel for desk coverings, &c.

213. TO DYE STRAW COLOUR AND YELLOW.

Saffron, steeped in earthen and strained, colours a fine straw colour. It makes a delicate or deep shade, according to the strength of the tea. Colouring yellow is described in receipt No.212. In all these cases a little bit of alum does no harm, and may help to fix the colour. Ribbons, gauze handkerchiefs, &c., are coloured well in this way, especially if they be stiffened by a bit of gum-arabic, dropped in while the stuff is steeping.

214. TO DYE A DRAB COLOUR.

Take plum tree sprouts, and boil them an hour or more; add copperas, according to the shade you wish your articles to be. White ribbons take very pretty in this dye.

215. TO DYE PURPLE.

Boil an ounce of cochineal in a quart of vinegar. This will afford a beautiful purple.

216 TO DYE BROWN.

Use a teaspoonful of soda to an ounce of cochineal, and a quart of soft water.

217. TO COLOUR PINK.

Boil 1 lb. of cloth an hour in alum water, pound $\frac{3}{4}$ of an oz. of cochineal and mix 1 oz. of cream of tartar; put in a brass kettle, with water, enough to cover the cloth; when about blood hot, put in your cloth,

stir constantly, and boil about fifteen minutes.

218. TO DYE A COFFEE COLOUR.

Use copperas in a madder-dye, instead of madder compound.

219. TO DYE NANKIN COLOUR.

The simplest way is to take a pailful of lye, to which put a piece of copperas half as big as a hen's egg; boil in a copper or tin kettle.

220. TO MAKE ROSE COLOUR.

Balm blossoms, steeped in water, colour a pretty rose colour. This answers very well for the linings of children's bonnets, for ribbons, &c.

221. TO DYE STRAW AND CHIP BONNETS BLACK.

Boil them in strong logwood liquor 3 or 4 hours, occasionally adding green copperas, and taking the bonnets out to cool in the air, and this must be continued for some hours. Let the bonnets remain in the liquor all night, and the next morning take them out, dry them in the air, and brush them with a soft brush. Lastly, rub them inside and out with a sponge moistened with oil, and then send them to be blocked. Hats are done in the same way.

222. TO DYE WHITE GLOVES A BEAUTIFUL PURPLE.

Boil 4 oz. of logwood, and 2 oz. of roche-alum, in 3 pints of soft water, till half wasted; let it stand to be cold after straining. If they be old gloves let them be mended; then do them over with a brush, and when dry repeat it. Twice is sufficient unless the colour is to be very dark; when dry, rub off the loose dye with a coarse cloth; beat up the white of an egg, and with a sponge, rub it over the leather. The dye will stain the hands, but wetting them with vinegar before they are washed will take it off.

223. TO BLEACH STRAW HATS, &c.

Straw hats and bonnets are bleached by putting them, previously washed in pure water, in a box with burning sulphur; the fumes which arise unite with the water on the bonnets, and the sulphurous acid, thus formed, bleaches them.

224. TO DYE SILKS BLACK.

To 8 gallons of water add 4 ozs. of copperas; immerse for 1 hour and take out and rinse; boil 2 lbs. logwood chips, or 1/2 lb. of extract; 1/2 lb. of fustic; and for white silks, 1/2 lb. of nicwood; dissolve 2

lbs. of good bar-soap in a gallon of water; mix all the liquids together, and then add the soap, having just enough to cover the silk; stir briskly until a good lather is formed, then immerse the silk and handle it lively. The dye should be as warm as the hand will bear; dry quickly and without rinsing. The above is enough for 10 yards or one dress.

225. TO COLOUR YELLOW ON COTTON.

Wet 6 lbs. of goods thoroughly; and to the same quantity of water add 9 oz. of sugar of lead; and to the same quantity of water in another vessel, add 6 oz. of bichromate of potash; dip the goods first into the solution of sugar of lead, and next into that of the potash, and then again into the first; wring out, dry, and afterwards rinse in cold water.

226. FOR STAINING GLASS - No.1 FLUX.

Minimum, or red lead, 3 parts; white sand, washed, 1 part. This mixture is melted, by which it is converted into a greenish-yellow glass

227. No.2 FLUX.

Of No.1, 8 parts; fused borax, in powder, 1 part. This mixture is melted.

228. No.3 FLUX.

Fused borax, 5 parts; calcined flint, 3 parts; pure minium, 1 part. This mixture is also melted. The above fluxes are used in procuring the different colours for staining glass.

229. INDIGO BLUE.

Oxide of cobalt, 1 part; flux No.3, 2 parts.

230. TURQUOISE BLUE.

Oxide of cobalt, 1 part; oxide of zinc, 3 or 4 parts; flux No.3, 6 parts; melt and pour out. If it is not sufficiently green, increase the zinc and flux.

231. AZURE BLUE.

Oxide of cobalt, 1 part; oxide of zinc, 2 parts; flux No.2, 8 parts; melt them together.

232. DEEP AZURE BLUE.

Oxide of cobalt, 1 part; oxide of zinc, 2 parts; flux No.2, 5 parts. The beauty of this colour depends on the

proportion of flux. As little as possible is to be used; it must, however, be brilliant. Sometimes less is used than the proportion indicated.

233. SKY BLUE.

Oxide of cobalt, 1 part; oxide of zinc, 2 parts; flux No.2, 12 parts; pound up, melt, and pour out.

234. EMERALD GREEN.

Oxide of copper, 1 part; antimoniac acid, 10 parts; flux No.1, 30 parts; pulverize together, and melt.

235. BLUEISH GREEN.

Green oxide of chromium, 1 part; oxide of cobalt, 2 parts; triturate, and melt at a high heat. The product is a button slightly melted, from which is removed the portion in contact with the crucible. This button is pounded up, and three parts of flux No.3, for one of the button, are added to it.

236. GRASS GREEN.

Green oxide of chromium 1 part, flux No.3, 3 parts, triturate and melt.

237. DEEP YELLOW.

Antimoniac acid 2 parts, subsulphate of iron 1 part, flux No.1, 10 parts; melt and pour out. The subsulphate of iron may be increased a little, the proportions of flux vary.

238. JONQUILLE YELLOW FOR FLOWERS.

Litharge 18 parts, sand 6 parts. The product of the calcination of equal parts of lead and tin 2 parts, carbonate of soda 1 part, antimoniac acid 1 part, rub together, or triturate, and melt.

239. WAX YELLOW.

Litharge 18 parts, sand 4 parts, oxide of antimony 2 parts, sienna earth 2 parts; melt. If it is too deep the proportion of sienna earth may be decreased.

240. ORANGE YELLOW.

Chromate of lead 1 part, minium 3 parts.

241. BRICK RED.

Yellow No.240, 12 parts; red oxide of iron, 1 part.

242. DEEP BLOOD RED.

Subsulphate of iron, calcined in a muffle until it becomes a beautiful capucine red, 1 part; flux No.2, 3 parts; mix without melting.

243. BROWN YELLOW OCHRE.

Yellow ochre No.244, 10 parts; sienna earth, 1 part; triturate without melting.

244. DEEP YELLOW OCHRE - CALLED YELLOW BROWN.

Subsulphate of iron, 1 part; oxide of zinc, 1 part; flux No.2, 5 parts; triturate without melting.

245. PURE PURPLE.

The purple powder of Cassius mixed while moist with flux No.3, and sometimes a little chloride of silver previously melted with flux No.3. If the purple, when prepared, does not melt sufficiently easy, some flux may be added when it is dry.

246. DEEP VIOLET.

The purple of Cassius, in place of flux No.3, flux No.1 is mixed with it. Sometimes a little of blue No.233 is added.

247. FLESH RED.

The sulphate of iron, put in a small crucible, and lightly calcined, produces a suitable red oxide. Those which have the desired tone are selected. All the flesh reds are made in this way, and vary only in the degree of heat which they receive.

248. HAIR BROWN.

Yellow ochre, No.244, 15 parts; oxide of cobalt, 1 part; well triturated and calcined, in order to give the tone to it.

249. LIVER BROWN.

Oxide of iron made of a red brown, and mixed with three times its weight of flux No.2. A tenth of sienna earth is added to it if it is not sufficiently deep.

250. WHITE.

The white enamel of commerce in cakes.

251. YELLOWISH GREY.

Yellow No.252, 1 part; blue No.233, 1 part; oxide of zinc, 2 or 3 parts; flux No.2, 5 parts; sometimes a little black is added, according to the tone which the mixture produces. The proportions of the blue and yellow vary.

252. YELLOW FOR BROWNS & GREENS.

Antimonic acid, 2 parts; sulphate of iron 1 part; flux No.1, 9 parts. This colour is melted and sometimes a little Naples Yellow is added if it is too soft, i.e., melts too easily.

253. BLUEISH GREY FOR MIXTURES.

Blue previously made by melting together three parts of flux No.1, and one part of the mixture of oxide of cobalt, 8 parts; oxide of zinc, 1 part; sulphate of iron calcined at a forge heat, 1 part; flux No.2, 3 parts; triturate and add a little manganese in order to render it more grey.

254. GRAYISH BLACK FOR MIXTURES.

Yellow ochre, No.244, 15 parts; oxide of cobalt, 1 part; triturate and calcine in a crucible until it has the desired tone. A little oxide of manganese is added in order to make it blacker; sometimes a little more of oxide of cobalt.

255. DEEP BLACK.

Oxide of cobalt, 2 parts; oxide of copper, 2 parts; oxide of manganese, 1 part; flux No.1, 6 parts; fused borax, 1/2 part; melt and add oxide of manganese, 1 part; oxide of copper, 2 parts; triturate without melting.

256. GENERAL DIRECTIONS.

The colours thus prepared after having been rubbed up on a plate of ground glass with the spirits of turpentine or lavender, thickened in the air are applied with a hair pencil. Before using them, however, it is necessary to try them on small pieces of glass, and expose them to the fire, to ascertain if the desired tone of colour is produced. The artist must be guided by these proof pieces in using his colours. The proper glass for receiving these colours should be uniform, colourless, and difficult of fusion. For this

reason crown glass made with a little alkali or kelp is preferred. A design must be drawn upon paper and placed beneath the plate of glass. The upper side of the glass being sponged over with gum-water affords, when dry, a surface proper for receiving the colours, without the risk of their running irregularly, as they would be apt to do on the slippery glass. The artist draws on the plate, with a fine pencil all the traces which mark the great outlines and shades of the figures. This is usually done in black, and afterwards, when it is dry, the vitrifying colours are laid on by means of larger hair pencils. The yellow formed with chloride of silver is generally laid on the back of the glass, for it is apt to run with the other colours while heating.

The pigments used in painting on glass are principally metallic oxides and chlorides, and as, in most of these, the colour is not brought out until after the painting is submitted to heat, it is necessary to ascertain beforehand if the colours are properly mixed by painting on slips of glass, and exposing them to heat in a muffle. The painter is guided by these trial pieces in laying on his colours. To fire the paintings a furnace with a muffle is used. The muffles are made of refractory clay.

257. WHITE COATING FOR GOLD VARNISHES.

A quart of strong parchment size and half a pint of water are to be made quite hot, and to these are to be added, (in small portions from time to time,) two good handfuls of common whiting, passed through a fine sieve; this mixture is to be left to infuse for half an hour, when it is to be stirred carefully so that the amalgamation may be perfect. This coating is preferable to any glue or cement for coating picture frames, &c., on which is to be laid the tin or silver foil, to be varnished with gold varnishes or lackers.

258. LEAD COLOURING PAINT.

Whiting, 112 lbs.	
Blue-black, 5 lbs.	\$1.12
White lead ground in oil, 28 lbs.	0.25
Road-dirt, 56 lbs.	2.24
Lime-water, 5 galls.	0.10
Residue of the oil, 2 1/4 galls.	0.05
	<hr/>
	1.25
Weights, 256 lbs.	
	\$5.01

To the above add two galls. of the incorporated oil, and 2 galls. of the linseed oil to thin it for use, and it will not exceed two cents and a quarter. The lime-water, whiting, road-dirt, and blue-black, must be first mixed together, then add the ground lead, first blending it with 2 1/2 galls. of the prepared fish oil; after which, thin the whole with 2 galls. of linseed oil and 2 galls. of incorporated oil, and it will be fit for use. For garden doors, and other work liable to be in constant use, a little spirits of turpentine may be added to the paint whilst laying on, which will have the desired effect.

259. BRIGHT GREEN PAINT.

112 lbs. yellow ochre in powder at 5 cts. per lb	
168 lbs. road-dust	\$5.50
112 lbs. wet blue, at 20 cts. per lb	0.25
10 lbs. blue-black, at 5 cts. per lb	22.40
6 galls. of lime-water	0.50
4 galls. fish oil, prepared	0.06
7 1/2 galls. incorporated oil	2.40
7 1/2 galls. linseed oil, at 90 cts. per gal	4.28
<hr/>	6.75
Weights, 592 lbs	
	\$42.24

It will be seen that the bright green paint costs but about 7 cts. per lb., ready to lay on; and the inventor challenges any colour-man or painter to produce a green equal to it for five times the price. After painting, the colour left in the pot may be covered with water to prevent it from sinking, and the brushes, as usual, should be cleaned with the painting-knife, and kept under water. A brighter green may be formed by omitting the blue-black. A lighter green may be had by the addition of 10 lbs. of ground white lead. Observe that the wet blue must be ground with the incorporated oil, preparatory to its being mixed with the mass.

260. STONE-COLOURED PAINT.

Lime-water, 4 galls.	
Whiting, 112 lbs.	\$0.04
White lead, ground, 28 lbs.	1.12
Road-dust, 56 lbs.	2.24
Prepared fish oil, 2 galls.	0.10
Incorporated oil, 3 1/2 galls.	1.20
Linseed oil, 3 1/2 galls.	2.00
<hr/>	3.15
Weights, 293 lbs.	
	\$9.85

The above stone-colour fit for use, is not three and a half cents per pound.

261. BROWN-RED COLOURED PAINT.

Lime-water, 8 galls.	
Spanish Brown, 112 lbs.	\$0.08
Road-dust, 224 lbs.	3.36
4 galls. of fish oil	0.40
4 galls. incorporated oil	2.40
4 galls. linseed oil	2.28
<hr/>	3.60
Weights, 501 lbs	\$12.12

This paint is scarcely two and a half cents per pound. The Spanish brown must be in powder.

262. A GOOD CHOCOLATE COLOURED PAINT.

This is made by the addition of blue black in powder, or lamp-black to receipt No.261, till the colour is to the painter's mind; and a lighter brown may be formed by adding ground white lead. By ground lead is meant white lead ground in oil.

263. YELLOW PAINT.

This is prepared with yellow ochre in powder, to receipt No.261, in the same proportion as Spanish brown.

264. BLACK PAINT.

This is also prepared in the same proportion, as in receipt No.261, using lamp-black or blue-black, instead of Spanish brown.

265. WHITE PAINT.

Slack a peck of nice, clean, fresh lime in a covered vessel, with water which is boiling hot; when well slacked, strain it well, then add to it 1 1/2 lbs. of finely ground rice; let the rice be boiled to a thin paste, and stirred in while very hot; 1/2 peck of common salt, well dissolved in warm water; 1/2 lb. of clean glue, dissolved in water; and 1/4 lb. of whiting; when well mixed, add 5 gallons of very hot water, then stir well, and let stand a few days well covered. Pit it on hot, and it will stand the weather as well as a good deal of white lead. You may colour this paint to suit your taste, using and stirring in well Spanish brown for a red pink colour. Take common clay finely powdered, and mixed well with Spanish brown for a reddish stone-colour. For yellow colour use yellow ochre if you please, but chrome yellow makes a richer colour and less does. You may make the colours dark or light according to the quantity of colouring matter used.

266. COMPOUND COLOURED PAINTS.

The various colours that may be obtained by the mixture of other colours, are innumerable. I only propose here to give the best and simplest modes of preparing those which are required for use. Compound colours, formed by the union of only two colours, are called by painters virgin tints. The smaller the number of colours of which any compound colour is composed, the purer and the richer it will be. They are prepared as follows:

267. LIGHT GREY.

This is made by mixing white lead with lamp-black, using more or less of each material, as you wish to obtain a darker or lighter colour.

268. BUFF COLOUR.

This is made from yellow ochre and white lead.

269. SILVER OR PEARL GREY.

Mix white lead, indigo, and a very light portion of black, regulating the quantities by the shade you wish to obtain.

270. FLAXEN GREY.

This is obtained by a mixture of white lead and Prussian blue, with a small quantity of lake.

271. BRICK COLOUR.

This is prepared by mixing yellow ochre, and red lead, with a little white lead.

272. OAK WOOD COLOUR.

Mix together three-fourths white lead, and one-fourth part umber and yellow ochre; the proportions of the last two ingredients being determined by the required tints.

273. WALNUT TREE COLOUR.

Two-thirds white lead, and one-third red ochre, yellow ochre, and umber, mixed according to the shade sought. If veining is required, use different shades of the same mixture, and for the deepest places, black.

274. JONQUIL.

Mix together yellow, pink, and white lead. This colour is only proper for distemper

275. LEMON YELLOW.

Mix together realgar and orpiment; some object to this mixture on account of the poisonous nature of the ingredients. The same colour can be obtained by mixing yellow-pink with Naples yellow; but it is then only fit for distemper.

276. ORANGE COLOUR.

For this colour mix red lead and yellow ochre.

277. VIOLET COLOUR.

Make by mixing vermillion, or red lead, with black or blue, and a small portion of white: vermillion is far preferable to red lead, in mixing this colour.

278. PURPLE.

Made by mixing dark-red with violet-colour.

RECEIPT No. 279 MISSING.

280. GOLD COLOUR.

This is procured by mixing massicot, or Naples yellow, with a small quantity of realgar, and a very little Spanish white.

281. OLIVE COLOUR.

This may be obtained by various mixtures: black and a little blue, mixed with yellow; yellow-pink, with a little verdigris and lamp-black; or ochre and a small quantity of white, will also produce a kind of olive colour. For distemper, indigo and yellow-pink, mixed with white lead or Spanish white, must be used. If veined, it should be done with umber.

282. LEAD COLOUR.

Mix together indigo and white lead or whiting.

283 CHESTNUT COLOUR.

Mix red-ochre and black, for a dark-chestnut. To make it lighter, employ a mixture of yellow-ochre.

284. LIGHT TIMBER COLOUR.

For this colour mix together spruce-ochre, white and a little umber.

285. FLESH COLOUR.

Mix lake, white-lead, and a little vermillion.

286. LIGHT WILLOW GREEN.

This is made by mixing white with verdigris.

287. STONE COLOUR.

Mix white with a little spruce-ochre.

288. DARK LEAD COLOUR.

Mix black and white with a little indigo.

289. FAWN COLOUR.

Mix white lead, stone-ochre, and a little vermillion.

290. CHOCOLATE COLOUR.

Mix lamp-black and Spanish brown. On account of the fatness of the lamp-black, mix some litharge and red lead.

291. PORTLAND STONE COLOUR.

Mix umber, yellow ochre, and white lead. The variety of shades of brown that may be obtained, are nearly as numerous as those of green.

292. TO IMITATE MAHOGANY.

Let the first coat of painting be white lead, the second orange, and the last burned umber or sienna; imitating the veins according to your taste and practice.

293. TO IMITATE WAINSCOAT.

Let the first coat be white, the second half white and half yellow-ochre, and the third yellow-ochre only. Shadow with umber or sienna.

294. TO IMITATE SATIN WOOD.

Take white for your first coating, light blue for the second, and dark blue or dark green for the third.

295. TURNER'S PATENT YELLOW PAINT.

When sea-salt is made into a paste with litharge, it is decomposed, its acid unites with the litharge, and the soda is set free. Hence Turner's patent process for decomposing sea-salt, which consists in mixing two parts of the former with one of the latter, moistening and leaving them together for about twenty-four hours. The product is then washed, filtered, and evaporated, by which soda is obtained. A white substance is now left undissolved; it is a compound of muriatic acid and lead, which, when heated, changes its colour, and forms Turner's yellow; a very beautiful colour, much in use among coach-painters.

296. TO PAINT IN IMITATION OF BLACK WALNUT.

Wash the surface of the wood with weak alum-water, after being well sand-pappered; then go over it with linseed oil, coloured with murat amber and red lead. It is better to have this colour rather light, and renew the application; when this has sufficiently dried, go over the surface with a strong sizing of transparent glue, and then use two castors of copal varnish. Any good grained pine will bear a very close resemblance to walnut, and the surface will be nearly as hard.

NOTE

For mixing the foregoing paints it is impossible to lay down any particular rule as to quantity, as each person mixes them of a shade to suit his own taste. They are mixed with oil and a little turpentine, and sometimes a little japan is added to assist in drying. When they are not mixed in this way the particular mode is mentioned.

297. RULES FOR MAKING PICKLES.

Select the best vinegar, for on this will depend the quality of your pickles; use glass bottles or stone jars for your pickles, never use earthenware glazed; use wooden knives and forks in making; leave the jars three-fourths full of the articles to be pickled; then fill the jar or bottle with vinegar. If you add alum at all let it be very little; look your pickles over occasionally and remove any that may not be doing well. Small cucumbers, beans, green plums, tomatoes, onions, and radish pods, may be used for assorted pickles; one red pepper for forty or fifty cucumbers is sufficient; if the vinegar on pickles becomes white or weak, take it out and scald and skim it, then return it to the pickles.

298. ASPARAGUS PICKLED.

Cut and wash the heads of the largest asparagus; place them in cold water for two hours; scald carefully in salt and water, then lay on a cloth until cool; make a pickle of salt and vinegar and boil it; to one gallon of pickles put a quarter of an ounce of mace, two nutmegs, a quarter of an ounce of whole pepper, and pour your pickle hot over them, cover tight with a cloth, and let stand a week, then boil the pickle, and let stand a week again, and boil again, when cold, cover closely.

299. BEANS AND FRENCH BEANS PICKLED.

Lay them in salt and water for nine days; then add a little vinegar and boil them in the liquor; when they become green strain them, wipe them dry, and put the beans into the jar; boil some vinegar, ginger, mace, pepper, cloves, and mustard seed, all bruised, and while hot pour it on the beans; cover them close when cold.

300. TO PICKLE RED CABBAGE.

Take the quarter of a purple head of cabbage, cut out the stalk, then slice it down endways, put them on a drying sieve, sprinkle each layer of cabbage with salt, which let lay and drain for two or three days, then put into a jar, boil some vinegar with spice tied up in a muslin bag, cut a beet root of good colour into slices; the branches of cauliflower cut off after it has lain in salt will look and be of a beautiful red; put it into a stone jar and pour boiling vinegar over it.

301. TO PICKLE CUCUMBERS.

Lay them upon dishes, sprinkle salt over them, let them lie a week, drain then off, and put them into stone jars, pour boiling vinegar over them, place them near fire, cover them well with vine leaves, and if not a good green pour off the vinegar and boil it again; cover them with fresh vine leaves and continue doing so until they are a good colour; as, to make a better green, you must use a mettle stew pan or brass kettles, which are very poisonous; use wooden spoons with holes to dish all pickles, keeping them always well covered and free from air.

302. TO PICKLE ONIONS.

Peel the onions till they look white, boil some strong salt and water and pour it over them; let them stand in this twenty-four hours; keep the vessel closely covered to retain the steam; after this wipe the onions quite dry, and when they are cold pour boiling vinegar, with ginger and white pepper over them; the vinegar must cover the onions.

303. TO PICKLE MUSHROOMS.

These are pickled in salt water and brandy, but they are of little advantage.

304. RAILROAD SYSTEM OF HORSE TRAINING.

This excellent and very simple method of horse training is nearly all accomplished by what is called the persuader or bit; which is made as follows: take a piece of strong rope eight or ten feet long and a quarter of an inch thick, then part the horse's mane in the centre, turning one half towards the ears, and the other towards the back of the horse; next tie the rope by one end in a hard knot that will not slip - not too tightly - round the horse's neck in the place at which the mane is divided, having the knot on the right side of the neck; then pass the loose end of the rope forwards, along the right side of the neck, into the horse's mouth and back along the left side of the neck to that part of the rope which surrounds the horse's neck, and underneath which it is passed; then take the loose end of the rope in your hand, and you have the persuader or bit completed. By pulling on the end which you now hold, you draw his mouth up towards his throat, and can thereby inflict the most excruciating torture that is possible for a horse to undergo, and the beauty of it is, without the least injury to the animal. One pull on this persuader is more dreaded by the horse than a whole day's flogging with raw-hide. In fact he cannot stand it; no matter how ugly his tricks may be, such as kicking, balking or anything else, if you use the persuader on him at the time, you can conquer him at once; make him as meek as a lamb, and glad to do anything to escape the torture inflicted by the persuader. A few times is all you will have to use it, even on the most sulky animal, until you will see no more of his tricks, and he is completely conquered.

305. TO HALTER WILD COLTS.

How to approach and halter the wildest colt of any age without danger, and lead him quietly, is as follows: choose a large floor, that of a wagonhouse answers well, strew it over with straw two or three inches deep, turn your colt into it, follow him in with a good whip, shut the door, and he will clear to the furthest corner, follow him, and whip him well on the hips, he will clear to another corner, follow him, treat him in the same manner, and he will soon begin to turn his head towards you, then stop and bid him come to you, if he does not come, lay on the whip again, being always careful not to touch him about the head or shoulders, but always about the hips, in a short time he will come to you when you bid him, then rub his ears, nose, neck, chest, &c., and pet him all you can; halter and lead him about the floor; if at any time he clears from you, pay the whip well on his hips until he comes to you again; after a little use him the same way in a small yard, and after this you can do as you like with him in any place.

306. HORSES WITH TENDER EARS.

How to make a horse, that is afraid of his head or ears, easy to bridle or halter, is as follows: - if your horse is very fractious and wild, you will need to treat him according to receipt No.305, first: at all events you will want the floor well covered with straw, then raise the left fore leg and strap it so that your horse will stand on three legs, then tie a strap just above his right fore foot, and standing on the left side of the horse, holding the strap in your hand, chirp to him, and the moment he attempts to move forwards, he is on his knees; you may then fasten the strap to that on the left leg, or hold it in your hand, as you please; then after the horse gets done struggling and working, rub his nose and ears gently, and put the halter on

and take it off repeatedly, to show him that it may be done without hurting him, and in a short time he will not mind the halter or bridle.

307. HOW TO CONTROL A VICIOUS HORSE.

How to acquire the most perfect control over the most vicious and wildest horse, in a short time, without the use of drugs or charms, is by going according to receipts No.305 and No.306, and sometimes you may have to use the persuader.

308. TO BREAK A WILD COLT.

How to break the wildest colt in a short time, so that a boy of 14 years old can ride or handle him in perfect safety. This is done by means of the persuader receipts No.305 and No.306, and if the boy is to ride him, after the horse is on his knees, as directed in receipt No.306, and the horse is tired out by struggling, then let somebody get on his back, sit there for a while, then move on to his shoulders, and back unto his hips, and so work round the horse until he does not mind it, and has no fear from it. When he has a few lessons like this, any lad may ride him in safety.

309. TO MAKE A STALLION LIE DOWN.

How to make the worst stallion lie down and allow you to perform any surgical operation on him that you wish, without the assistance of any one. If the horse is very ugly, you may need to follow, first, receipt No.305, and perhaps, use the persuader, but it is principally done by receipt No.306, with this addition: when you have the horse on his knees, you standing on his left side, and holding the strap which is attached to his right fore foot in your hand, as taught in receipt No.306, then put a headstall on him, and to its ring on the left side of his mouth, tie firmly a stick about an inch and a half thick, which, let run up on the left side of his neck, to the top of his shoulders, then tie the strap, which is attached to the right foot, to this pole; now pull the horse over on his left side, and you have him powerless, his fore feet are drawn up, and on account of the pole he cannot raise his head, so that you have perfect control over him to do as you please.

310. PULLING AT THE HALTER.

To break a horse from pulling at the halter. This is done by means of the persuader; if he pulls once on this, he will never try it again.

311. WILD STALLIONS.

How to break the wildest stallion in a short time, so that a boy can lead him in perfect safety. This is done by putting the horse through a regular course of training, according to receipts No.305 and No.306, and the use of the persuader.

312. BALKY HORSES.

How to make the worst of balky horses pull true. Whenever your horse balks, if you there and then, openly and publicly make use of the persuader, and jerk him well with it, he will be glad to go, and in a short time you will have to use it no more; but as long as this system is kept secret, and when a horse balks, you do not then use the persuader, you will never break the horse from balking.

313. SHOEING HORSES.

How to make a horse stand to be shod. This is accomplished by having the persuader fitted on, and whenever the horse makes an attempt to be ugly, pull on the persuader, and he will very soon be glad to stand as quiet as a lamb.

314. "WHOA".

How to make a horse understand the word "whoa" so perfectly, that he will always stop when spoken to, no matter what may occur to frighten him. This is done by having the persuader fitted on, and whenever you say "whoa", in a loud and stern tone of voice, pull on the persuader, and it is impossible for a horse to fear or dread anything else as much as this, he will stop instantly, no matter what may occur to frighten him.

315. THROWING.

How to break a horse off the habit of throwing his rider. This is accomplished by means of the persuader, and receipt No.308.

316. SCARING.

How to break a horse off scaring at umbrellas or buffalo robes, so that you may toss them at him without disturbing him. To accomplish this you want to get the horse on his knees, according to receipt No.306; then bring your robes and umbrellas near him, let him smell them, toss them at him, and throw them over his head carefully, and so continue to work, showing him that they do not harm him, until all fear of them is lost.

317. KICKING HORSES.

How to break the worst class of kicking horses. To accomplish this, you will want to put the horse through a regular course of training, according to this system, until you have him well conquered; then keep the persuader on, and if he should ever attempt to kick, at that moment jerk well on the persuader, and he will think of everything but kicking; when he attempts it a few times, and you check him in this manner, he will quit it altogether.

318. TO BIT A HORSE.

How to bit a horse more perfectly, in ten minutes, at a cost of ten cents, that can be done with any other bit and rig, at a cost of five to ten dollars. This bit is what is called the persuader, and it is the best bit that ever was used for biting colts. It puts a most beautiful curve in the neck, and leaves the colt at ease while wearing it. When it is used for this purpose, the end that you hold in your hand in other cases, is now to be tied to that part of the persuader which surrounds the neck of the horse or colt.

319. JOCKEY TRICKS - TO PRODUCE FOUNDER.

How to make a horse appear as if he was badly foundered in one night's time. Take a fine wire, or any substitute, and fasten it tightly round the castor tit, the back side of the pasture joint at night; smooth the hair down nicely over it, and by morning he will walk as stiff as any foundered horse.

320. FOOD AND STARVATION.

How to make a horse stand by his food and starve to death. Grease the front teeth and roof of the mouth with common beef-tallow, and he will not eat until you wash it out; this, in conjunction with the above, will consummate a complete founder.

321. GLANDERS.

How to make a horse appear as if he had the glanders, in one night's time. This is done by melting fresh butter and pouring it into his ears, not too hot.

322. BALKING.

How to make a true pulling horse balk. Take tincture of cantharides 1 oz., and corrosive sublimate 1 drachm; mix and bathe his shoulders at night.

323. TO COVER UP HEAVES.

How to cover up the heaves so effectually, that you may work, ride, or run him, and they cannot be detected. This will last from twelve to twenty-four hours, long enough to trade off. Drench the horse with one-fourth pound of common bird shot, and he will not heave until they pass through him.

324. THE COUNTENANCE.

How to put a young countenance on a horse. Make a small incision near the sunk place over the eye, insert the point of a blow-pipe or goose-quill, and blow it up; close the external wound with thread, and it is done.

325. THE CRIB.

How to cure a horse of the crib, or sucking wind; saw between the upper front teeth.

326. QUESTIONS.

To teach a horse to answer questions. This is done by pricking him with a pin; for instance, you may say to the horse, is your name Tom? and at that moment prick him with a pin so that he will squeal; then ask him is your name Sam? don't prick him and he will not squeal. Then say again is your name Tom, prick him again, and he will squeal; so continue, and after a time he will squeal without being pricked when you ask him the first question, &c.

327. TO NERVE A HORSE.

How to nerve a horse that is lame. Make a small incision about half way from the knee to the joint on the outside of the leg, and at the back part of the shin bone; you will find a small white tendon or cord; cut it off and close the external wound with a stick, and he will walk off on the hardest pavement, and not lame a particle.

328. A HORSE'S AGE.

The following rules will enable any man to ascertain with tolerable certainty the age of any horse. Every horse has six teeth above and six below; before he arrives at the age of three he sheds his two middle teeth by the young teeth rising and shoving the old ones out of their place. When he arrives at the age of three, he sheds one more on each side of the middle teeth; when four years old he sheds two corner and the last of his fore teeth; between four and five he cuts his under tusks, and when five will cut his upper tusks, and have a mouth full and complete, and the teeth will have hollows of a very dark brown colour. At six years old the grooves and hollows in a horse's mouth will begin to fill up a little and their tusks have their full growth, with their points sharp, and a little concave. At seven years old the grooves and hollows will be pretty well filled below. At eight the whole of the hollows and grooves are filled up, and you see the appearance of what is termed smooth below. At nine years old, the point of the tusk is worn off, and the part that was concave begins to fill up and become rounded. Between nine and ten years of age a horse generally loses the marks of the mouth. After nine years old a wrinkle comes on the eyelid at the upper corner of the lower lid, and every year thereafter he has one well defined wrinkle for each year over nine. If, for instance, a horse has three wrinkles, he is twelve; if four, he is thirteen, &c.

329. HEAD, NECK OR LUNGS.

How to tell by looking at a horse whether there is any thing the matter with his head, neck or lungs. A knowledge of this is as useful as it is simple. If there is nothing the matter with the head, neck or lungs of a horse, the nostrils will have a clean, healthy, and bright appearance, but if there is, they have always a dirty, muddy, or in some way an unhealthy appearance.

330. PROF. MANDIE'S HORSE TAMING.

Take finely grated horse caster, or the warty excrescence from the horse's leg, oils of rhodium, and cumin, keep these in separate bottles well corked; put some of the oil of cumin on your hand and approach the horse on the windy side that he may smell it; he will then move towards you, then rub some of the cumin on his nose; give him a little of the castor on sugar, salt, or any thing he likes, and get 8 or 10 drops of the oil of rhodium on the point of his tongue; you can then get him to do any thing you please. Follow up your advantage by all the kindness and attention possible towards the animal, and your control is certain. This is only fit for nervous horses; but the railroad system is certain. In all kinds of ugly horses it is the best of methods.

331. BOTTS IN HORSES.

This may be relied on as a certain and safe remedy for botts in horses. When the horse is attacked, pound some common glass very fine, sift it through a fine piece of muslin, take a tablespoonful, put it inside a ball of dough, (not mixed with the dough,) then put it down the horse's throat, and in from two to five minutes the horse will get up and feel and will be well. The moment the glass touches the botts though they may have eaten their way into the coats of the stomach, so that but a small portion is exposed, they will let go their hold, will pucker up and be driven off by the bowels. This remedy is perfectly safe, and is the only certain cure for botts under the sun. Try it.

332. RING BONE AND SPAVIN.

Take of sweet oil, 4 oz.; spirits of turpentine, 2 ozs.; oil of stone, 1/2 oz. Mix and apply three times a day. If the horse is over four years old, or in any case where there is not sufficient, in addition to it, you will fit a bar of lead just above it, wiring the ends together, so it constantly wears upon the enlargement, and the two together, will cure nine cases out of every ten in six weeks.

333. POLL EVIL AND FISTULA.

Take 1 lb. common potash dissolved in 1/2 pint of water. Add 1/2 oz. extract of belladonna and 1 oz. gum-arabic dissolved in a little water; work all into a paste with wheat flour, and box or bottle up tight. In applying this, the place should be well cleansed with soap-suds, (castile soap is best) then tallow should be applied all around by the paste dissolving and running over it. Now this paste must be pressed to the bottom of all the orifices; if very deep it must be made sufficiently thin to inject by means of a small syringe, and repeated once in two days, until the callous pipes, and hard fibrous base around the poll evil, or fistula, is completely destroyed. Sometimes one application has cured cases of this kind, but it will generally require two or three. If the horse cannot be kept up, you will put a piece of oiled cloth over the place. The advantage of this caustic over all others is that less pain and inflammation is induced. The sores may be cured by the following or Sloan's ointment: cedar oil is to be applied to the tendons, to prevent them stiffening, in pole evil, or other cases.

334. DeGRAY, OR SLOAN'S HORSE OINTMENT.

Take of rosin 4 oz., lard 8 oz., honey 2 oz., mix and melt slowly, gently bring it to a boil, and as it begins to boil slowly, add a little less than a pint of spirits of turpentine, stirring all the time it is being added, then remove from the stove, and stir till cool. This is an extraordinary ointment for bruises in flesh or hoof, broken knees, galled backs, bites, cracked heels, &c. or when a hoirse is gelded, to heal and keep away flies.

335. NERVE AND BONE LINIMENT.

Take of beef's gall 1 quart, alcohol 1 pint, volatile liniment 1 lb., spirits of turpentine 1 lb., oil of origanum 4 oz., aqua ammonia 4 oz., tincture of cayenne 1/2 pint, oil of amber 3 oz., tincture of spanish fly 6 oz., mix and shake well. Uses too well known to need description.

336. TO CURE FOUNDERS IN 24 HOURS.

Boil or steam oat straw for half an hour, then wrap it round the horses legs while quite hot, cover up with wet woollen rags to keep in the steam: in six hours renew the application. Take 1 gallon of blood from the neck vein, and give a quart of linseed oil. He may be worked next day.

337. TO CURE COLIC IN TEN MINUTES.

Bleed freely at the horse's mouth, and take 1 oz. of oil of juniper, 1 oz. of laudanum, and 2 ozs. of sweet spirits of nitre. Mix in a pint of gruel, and drench him with it.

338. GARGLING OIL.

Take of tanner's oil 1 quart, oil of vitriol 2 oz., spirits of turpentine 1 oz. Mix all together, leave the bottles open till it stops working, then it is ready for use.

339. MERCHANT'S GARGLING OIL.

Take of linseed oil 2 1/2 galls., spirits of turpentine 2 1/2 galls., western petroleum 1 gall., liquor potass 8 oz., sap green 1 oz., mix all together, and it is ready for use.

340. PURGING BALLS.

Take of aloes, 3 oz.; anise seed, 3 oz.; pulverise and mix with castile soap. This makes one ball for a horse.

341. URINE BALLS.

Take of white resin, 1/2 lb.; castile soap, 1/2 lb.; venice turpentine, 1/2 pint; mix well together; make the balls the size of butternuts. Give the horse three the first day, two the second day, and one the third day.

342. FOR THE HEAVES.

Give the horse 1/2 drachm of nitric acid, in a pint of sweet milk. Repeat once in two days, once in three days, and once in four days. This receipt is highly prized, and is good; but the best remedy for heaves is so simple that scarcely any one will try it; it is to take fresh sumack tops, break two or three bunches of them up in the horse's feed, three times a day. This will actually cure the heaves unless, they are very bad.

343 INFLAMMATION OF THE LUNGS.

The symptoms of inflammation of the lungs in the horse is as follows: - it is usually ushered in by a shivering fit, the horse is cold all over, reaction soon takes place, the body becomes warmer, and the extremities extremely cold. The breathing is quick, he refuses to lie down. If when wearied out, he lies down, it is but for a moment.

Treatment - This may be commenced by a good bleeding, which is to be followed by a drachm of emetic tartar, and three drachms of nitre, every eight hours, rubbing the extremities, and giving bran-mashes; throw warm blankets over the animal, hanging down to the floor, and place vessels of hot water in which put hot stones or bricks, and sweat freely, also, give one scruple of opium, and two of calomel, twice a day. The sides of the chest may be thoroughly blistered. This is the proper treatment.

344. STOMACH AND BOWELS.

Inflammation of the stomach and bowels in the horse, resembles colic in its symptoms, except in colic the pains pass off at times, and return again, whereas in inflammation, the pain is constant, and the animal is never easy; after a time the eye acquires a wild haggard, unnatural stare, and the pupil, or dark spot in the eye, dilates.

Treatment - Take away, at once, six or eight quarts of blood, and repeat the bleeding if the pain returns. Follow the bleeding by one scruple of opium, and two of calomel, twice a day; also blister the sides of the chest; give him bran mash and purging balls, (Receipt No. 340).

345. INFLAMMATION OF THE KIDNEYS.

The principal symptoms of inflammation of the kidneys in the horse, is, pressure on the loins elicit symptoms of pain, the breathing is hurried, there is a constant desire to void urine, although passed in small quantities, highly coloured, and sometimes tinged with blood. Treatment - This is blood letting, active purging, mustard poultices as near the kidneys as possible, and the horse warmly clothed, &c., as in other inflammations.

346. CONDITION POWDERS.

Take of flax-seed meal 2 lbs., finygreek meal 2 lbs., liver antimony 1/2 lb., and nitre 1/2 lb., mix well; give a tablespoon for three days and omit three days, &c.

347. FOR BONE SPAVIN.

Take of cantharides 2 oz., strong mercurial ointment 4 oz., oil of turpentine 4 oz., iodine 3 oz., mix all with a sufficiency of lard to make a thin ointment; apply to the spavin only once a day until it bursts; then oil it with sweet oil until healed. If the bunch is not then removed, apply it again, and again if necessary, which is seldom the case.

348. TO MAKE A HORSE FOLLOW YOU.

The horse is treated in the same manner as mentioned in the receipt NO. 305, always being careful to whip him on the hips. When he will follow you round the barn floor, then treat him in the same manner in a yard, and when he follows you here, he will any place.

349. COLTS CHEWING HALTERS.

Take scab from the wart on the inside of the leg, rub the halter thoroughly with it, and they will not be found chewing their halters very soon.

350 A. HORSES JUMPING FENCES.

Pass a small and strong cord around his body just behind his shoulders, and tie the halter to this cord between his forelegs, so as to leave the distance about two feet from the cord to his head; if then he attempts to jump, he is compelled to throw his head forward, which draws hard on the cord, and causes it to cut into his back, and he instantly desists. The cord should not be more than a quarter of an inch in diameter.

350. B. BLAZE OR STAR.

When we have a pair of horses that match well in every respect, except that one has a blaze or star on the face, it becomes very interesting and important to know how to make their faces match. Take a piece of oznaburgs the size you want the star or blaze; spread it with warm pitch and apply it to the horses face; let it remain two or three days, by which time it will bring off the hair clean, and make the part a little tender; then take of elixor vitriol a small quantity, anoint the part two or three times; or, take of a very common weed called asmart, a small handfull, bruise it, and add to it about a gill of water, use it as a wash until the face gets well, when the hair will grow out entirely white.

351. BLACK SPOTS.

To spot a white horse with black spots, take litharge 3 oz., quick lime 6 oz., beat fine and mix together; put it into a pan and pour a sharp ley over it; then boil it and you will have a fat substance swim on top, with which anoint the horse in such places as you design to have black, and it will turn to the colour immediately.

352. INFLUENZA OR HORSE-AIL.

The first symptom is debility. The horse appears dumpish, refuses to eat, mouth hot, in six or twelve hours the appetite diminishes, legs and eyelids swell. This disease may end in chronic cough, a bad discharge from the nose, and in inveterate cases in glanders.

Treatment - Keep the horse on light food, as mashes, scalded shorts, green grass, &c., and if he is very plethoric, he should be half starved and bled from the mouth. If the throat is sore, rub it with warm vinegar and salt, or blister; walk him a little for exercise, administer the following: oil of croton, 5 drops; nitrate of potassa 4 to 6 drachms; potassio-tartrate of antimony, 1 drachm; spirit of nitric ether, 4 drachms to 1 oz; solution of acetate of ammonia 2 to 4 ozs.; and warm water sufficient to make a draught; and when the head is much affected, add a drachm of camphor. This draught may be administered once and sometimes twice a day, the croton oil being omitted after the first dose; after the first day, 2 drachms of powdered gentian may be added.

353. STRANGLES OR HORSE DISTEMPER.

Symptoms - A discharge from the nostrils, with a swelling under the throat, a disinclination to eat. Thirst, but after a gulp or two the horse ceases to drink. In attempting to swallow, a convulsive cough comes on; mouth hot and tongue coated with a white fur. The tumor under the jaw soon fills the whole space, and is evidently one uniform body, and may thus be distinguished from glanders or the enlarged glands of catarrh. Treatment - Blister over the tumor at once; when the glands remain hard and do not suppurate, it may lead to glanders, in which case rub it with iodine ointment, and give internally, hydriodate of potash in daily doses of 10 to 40 grains, combined with gentian and ginger. As soon as the swelling is fit, lance it freely and apply a linseed poultice; give bran mashes, fresh grass, &c.

354. STAGGERS.

Symptoms - Giddiness, he may fall down, or suddenly turn several times round first; he may be quiet, or struggle violently.

Treatment - If the horse be full and well fed, take 3 or 4 quarts of blood at once; cease using him for a time, and give him an occasional physic ball or powdered aloes 6 drachms and a little in honey.

355. GREEN OINTMENT.

Take of lard, 6 lbs., put into a ten gallon kettle; add 2 gallons of water; cut jimpsion seeds and fill them in,

and cook from 4 to 6 hours slowly, till all the water is gone; then put into jars, and add to each pound of ointment one ounce of turpentine. Good for galls, cuts, scratches, &c.

356. HOOF EVIL OR THRUSH GREASE HEELS.

Bleed and physic, and poultice the feet with boiled turnips and some finely ground charcoal at night, for two or three nights; then wash the feet clean with castile soap and soft water, and apply the blue ointment every day; keep the horse on a floor and he will be well in 12 days.

357. BLUE OINTMENT.

Take the ointment of rosin, 4 ozs; finely ground verdigris, 1/2 oz; turpentine, 2 oz; mutton tallow, 2 lbs; oil of organum, 1/2 oz; tincture of iodine, 1/2 oz. Mix all together. This is one of the best medicines that can be made for scratches, hoof-evil, and cuts, and is good to apply on fistula after the rowels have been taken out. It is as good for human as horse flesh.

358. HOOF BOUND OR TENDER FEET.

Never have the feet spread at the heels, nor rasped about the nail holes; use the liquid, and apply it according to directions. For hoof bound or tender feet, apply it all around the top of the hoof down one inch every day. First have a stiff shoe on the foot, and cleanse the cut or cork. Never cut or burn for it.

359. HOOF LIQUID.

Take of linseed or neatsfoot oil, 1/2 a pint; turpentine, 4 oz; oil of tar, 6 oz; organum, 3 oz; mix and shake well together.

360. HOOF AIL.

Apply blue vitriol, and put on a tarred rag to keep out the dirt.

361. BIG, OR MILK LEG.

Apply the liquid blister every three hours until it blisters; then in six hours grease with soft oil of any kind; then in eight days wash the part clean, and apply it again. Repeat it there or four times, then use the iodine ointment. If this does not remove it all, apply the ringbone and spavin medicine, this will remove it all.

362. IODINE OINTMENT.

Get 1oz. of the grease iodine, put in 1 pint of alcohol; let this stand in the sun two days, and you have the tincture of iodine. Take 2oz. of the tincture and 1/2lb. of lard; mix well, and you have the iodine ointment.

363. SPRAIN IN THE STIFLE.

Symptoms - The horse holds up his foot, moans when moved, swells in the stifle. This is what is called stifling; there is no such thing as this joint getting out of place.

Treatment - Bleed two gallons, foment the stifle with hot water, rub it dry, then bathe it well with the general liniment every morning and night, give him mash, and he will soon be well. Never allow any stifle-shoe or cord on the foot or leg.

364. GENERAL LINIMENT.

Take of turpentine, 1/2 pint; linseed oil, 1/2 pint; aqua-ammonia, 4 oz.; tincture of iodine, 1 oz.; shake all well together. This is used for different things spoken of in the different receipts, sores or swellings, sprains, &c.

365. LIQUID BLISTER.

Take of alcohol, 1 pint; turpentine, 1/2 pint; aqua-ammonia, 4 oz.; oil of origanum, 1 oz.; mix, apply this as spoken of, every three hours until it blisters.

366. TO CURE CORNS.

Take of the shoe, cut out the corns, and drop in a few drops of muriatic acid, then make the shoes so they will not bear on the part affected. Apply the hoof liquid to the hoof to remove the fever. This is a sure cure for corns in horses.

367. WATER FARCY, OR DROPSY.

This is a swelling along under the chest, and forward to the breast; bleed, rowel in the breast and along the swelling, six inches apart, apply the general liniment to the swelling, move the rowels every day, let them stay in until the swelling goes down. Give soft food, mashes, with the cleansing powder in them.

368. CLEANSING POWDER.

This is to be used when the blood is out of order. It is good to restore lost appetite, good for yellow water, whenever it is to be used it is spoken of in the receipts. Take of good ginger 1 lb., powdered gentian 4oz., crude antimony 1/2 oz., mix well together. Give one large spoonful every day in wet food. This is perfectly safe.

369. POLL EVIL.

Cure before it breaks, run a rowel or seaton from the lower part of the top through the centre of the enlargement, then make the following lotion. Take of sal-ammoniac 2 oz., spirits of turpentine 1/2 a pint, linseed oil 4 oz., and spirits of tar 4 oz., shake well, and apply it all over the swelling every other day. Let the seaton stay in until all the swelling is gone down, move it every day, and when all is gone throw it out. Bleed when you first open it, and keep the part clean.

370. GLANDERS.

Bleed copiously, put a rowel or seaton of polk root between the jaw and breast, put tar thoroughly up the nostrils twice a day. This is the best remedy ever in use.

371. FRESH WOUNDS.

If there is an artery cut, tie it if possible; if not possible, or if there is much bleeding without the separation of an artery, apply the following wash: nitrate of silver 4 grains, soft water 1 oz., wet the wound with this, then draw the edges together by stitches one inch apart, then wash clean, and if any swelling in twenty-four hours, bleed and apply the blue ointment, or any of the liniments spoken of, Keep the bowels open.

372 THE LIVER.

In disease of the liver or yellow water, give the following ball every morning until it operates upon the bowels. Take of aloes 7 drachms, calomel 1 drachm, ginger 4 drachms, and molassas enough to make it into a ball, wrap it in a paper and give it; give scalded bran and oats, grass if it can be got; when his bowels have moved, stop the physic, and give 1 oz. spirits of camphor in half a pint of water, every morning, for twelve days, rowel in the breast, and give a few doses of cleansing powder. Turn him out.

373. BALLS FOR WORMS IN HORSES.

Take of barbadose aloes 6 drachms, powdered ginger 1 1/2 oz., oil of wormwood 20 drops, powdered natron 2 drachms, and molassas to form a ball.

374. BALLS FOR HIDE BOUND.

Take of barbadose aloes 1 oz., castile soap 9 drachms, and ginger 6 drachms. Make into a ball.

375. HEALING OINTMENT.

Take of lard 5 parts, rosin 1 part, melt them together; when they begin to get cool add two parts of calamine powder, stirring well till cool. If the wound is unhealthy add a little turpentine.

376. GALLS ON HORSES.

Bathe the parts affected with spirits saturated with alum.

377. GRUBS IN HORSES.

Take of red precipitate a teaspoonful, form into a ball, repeat if necessary in 30 minutes.

378. STIFF SHOULDERS OR SWEENEY.

Rowel from the top of the shoulder blade down as far as there is no peeling. First cut through the skin, and then two thin fibres or strippings, use the blunt needle, move it back and forwards five or six inches, draw in a tape or seaton, and the next morning wet it with tincture of cantharides, do this every other day, move them every day, wash the part clean, let the tape stay in until the matter changes to blood, this is for both diseases. Let him run out if possible. He will be well in six or eight weeks. If for sweeney you may work him all the time.

379. SICK STOMACH IN HORSES.

Bleed half a gallon, then if he will eat a mash give him one, give no hay, then give him 1/2 oz. of rhubarb every night until it moves his bowels, then take of gentian root 4 oz., fenu-greek 2 oz., nitre 1/2 oz., mix and give a large spoonful every day. Do not give him too much to eat when his appetite returns.

380. LUNG FEVER.

Bleed four gallons from the neck vein, and take 1 oz. of aquanite, add to it half a gallon of cold water, drench him with a gill of it every three hours, drench him over the lungs, then give him water to drink that hay has been boiled in, and to each gallon of it add 1 oz. of gum-arabic, and 1/2 oz. of spirits of nitre; give this every four hours; foment and rub the legs with alcohol and camphor, until they get warm; do not move the horse. Keep him in open stall if hot weather.

381. EYE WASH FOR HORSES.

Take of sugar of lead, 2 drachms; white vitriol, 1 drachm; and soft water, 1 quart; mix and dissolve; wash the eyes out well every morning, having first washed them well with cold water, continue this for three or four weeks; and then, if the eyes are not much better, bleed and give a mild physic. The horse should be kept on low diet, and not over heated or worked too hard. Scalded shorts or oats are good.

382. MANGE AND SURFEIT.

Bleed and physic, then take sulphur, 1/2 lb.; and lard, 2 lbs.; mix well; grease the part affected every three or four days; stand the horse in the sun until it dries in; give him a few doses of the cleansing powder.

383. CONTRACTION OF THE NECK.

If it is taken in the first stages, bleed from the neck 2 galls.; then ferment or bathe the part well with hot water; rub it dry, and apply the general lineament every day, two or three times; this will cure if it is of long standing. Then blister all along the part affected with the liquid blister. Do this every three weeks until he is well, and rub with the white ointment, Do not work the horse till well.

384. WHITE OINTMENT.

For rheumatism, sprains, burns, swelling, bruises, or any inflammation on man or beast, chapped hands or lips, black eyes, or any kind of bruises. Take of fresh butter 2 lbs.; tincture of iodine, 1/2 oz.; oil of origanum, 2 ozs.; mix well for fifteen minutes, and it is fit for use; apply it every night; rub it in well with your hand.

385. OLD HORSES YOUNG.

Drops to make old horses as lively as young. Take the tincture of assafoetida, 1 oz.; tincture of cantharides, 1 oz.; antimony, 2 oz.; fenugreek, 1 oz.; and fourth proof brandy, 1/2 gal.; mix all and let stand ten or twelve days; then give ten drops in a pail, or one gallon, of water.

386. RHEUMATIC LINEAMENT.

Take of alcohol, 1/2 pint; oil of origanum, 1/2 oz.; cayenne pepper, 1/2 oz.; gum myrrh, 1/2 oz.; and lobelia, 1 teaspoonful; mix and let stand one day; then bathe the part affected.

387. TO KILL LICE ON CATTLE.

Take of buttermilk, 1 quart; salt, 1/3 pint; mix and dissolve; pour this along the back, letting it run down each side; if this should ever fail use the water in which potatoes have been boiled, in the same way, it will be effectual.

388. HORSES FROM FIRE.

The difficulty of getting horses from burning stables is well known. The remedy is to blindfold them perfectly, and by gentle usage, they may be easily led out. If you like you may also throw the harness upon them.

389. SNOW BALLS.

To prevent snow balls on horses' feet clean their hoofs well, and rub with soft soap before going out in the snow.

390. ROT IN SHEEP.

To prevent and cure this keep them from exposure in bad weather, and above all from wet pasture; pair their hoofs into the quick, and put them to stand occasionally in quick lime for a few hours. This cauterizes the disease and generally effects a cure. To destroy the flukes and worms, give the following: take of common salt 8 oz., spirits of turpentine 2 oz.; put in a quart bottle and add water till filled; give one teaspoonful morning and night for eight days.

391. DISTEMPER IN HOGS.

To cure this take equal parts of sulphur and copperas; pulverise them well together, and give one teaspoonful every three days in the slop.

392. CURE FOR SWELLED CATTLE.

If the beast affected is full grown, administer one English pint of train oil, and smaller doses in proportion to the age. The cure is certain. The above medicines from receipt No. 331 are for horses, cattle, &c.

393. A TURKISH PREPARATION FOR LADIES.

Take of best white wine vinegar 1 quart; of best brazil wood 1/2 lb. Infuse together for four days; then boil for half an hour, strain through a linen cloth, and place the liquid again over the fire. Having dissolved 1/4 lb. of alum in a pint of white wine vinegar, mix both liquids together and stir them well. Take the scum that arises on the surface, gradually dry and powder it, and it is ready for use.

394. MINCE PIE.

This is the manner in which mince pie was prepared for the Prince of Wales in New York. The articles of three following receipts were also prepared for him in that city; take of moist sugar 1 lb., currants 1 lb., suet well mashed 1 lb., apples cut very fine 1 lb., best raisins, stoned and cut very small 1/4 lb., the juice of five Seville oranges, the juice of two lemons, the rind of one mashed fine, a glass of brandy, and mace and nutmeg to suit your taste. Put all together in a pan and tie up closely.

395. HONEY CAKE.

Take of loaf sugar 1/2 lb., honey 3/4 lb., of orange peel cut very fine 1/2 oz., of cinnamon 1/2 oz., ginger 1/2 oz., one quarter of a citron, four eggs well beaten, and a pound of sifted flour. First melt the honey and sugar together, then mix all. Make into any shape you please.

396. SODA BISCUITS.

Take of butter 2 oz., sugar 4 oz., cream tartar 1/4 oz., two eggs; one teaspoonful of soda, and a half pint of

sweet milk. Stir quite still, &c.

397. BEEF STEAK.

Put two large onions, peeled and sliced, into a stew-pan, put in a little water, cover closely, set on a slow fire until the water is all gone, then add 1/2 a pint of geed broth, and boil till the onions are tender, now strain off the broth, chop the onions fine, and season to your taste with mushroom catsup, salt and pepper, let it boil for five minutes, with the onion in it, then pour it into the dish, and lay a broiled steak over it. Good beef gravy is far superior to broth. In broiling your steak use a strong fire.

398. WEDDING CAKE.

Take of flour, 18lbs.; fine sugar, 10 lbs.; butter, 9 lbs.; 11 nutmegs; 18 eggs; milk, 5 quarts; yeast, 1 quart; fruit, 10 lbs.; mace, 1 oz.; wine 1 quart; and brandy, 1 pint. Roll the butter and sugar together, then mix all the rest with them, putting the fruit in last, just before it is put in the oven.

399. DOMESTIC YEAST.

Take of good flour, 1 lb.; brown sugar, 1/4 lb.; water, 2 galls.; and a little salt. Boil all together for one hour. When milk warm, bottle and cork it tightly. It will be fit for use in 24 hours. One pint of this is sufficient for 18 lbs. of bread.

400. TO PRODUCE MUSHROOMS

If the water wherein mushrooms have been steeped be poured upon an old bed, or if the broken parts of mushrooms be strewed thereon, there will speedily arise great numbers.

401. HOW TO MAKE CIDER INTO WINE

Take of good cider, 25 galls.; brandy, 1gall.; crude tartar, 1 lb.; of the wine you wish to resemble, 5 galls.; of milk to settle it, 1 pint. Mix all together, and let it stand for 24 hours, and then draw off, being careful not to draw any of the sediment.

402. SUBSTITUTE FOR CREAM

Take two or there whole eggs, beat them well up in a basin; then pour boiling hot tea over them; pour it gradually to prevent curdling. It is difficult from the taste to distinguish it from rich cream.

403. TO PRESERVE FRESH MEATS.

Meat may be kept for several days in the height of summer sweet and good by lightly covering it with

bran, and hanging it in some high, or windy room, or in a passage where there is a current of air.

404. GRAFTING WAX.

Take of tallow one part, beeswax two parts, and resin four parts; melt them together and dip strips of rags in the mixture while hot, and use them for grafting.

405. FOR THE TEETH.

Cuvileer's grand preparation for beautifying the teeth. Take of chloride of lime one part, prepared chalk 15 parts, pulverised peruvian bark $\frac{1}{2}$ a part and a little otto of roses; mix all well together and it is ready for use.

406. TO MAKE HAIR CURL.

Take of common soap 2 lbs., spirits of wine 3 pints, and potash 3 oz.; cut the soap small and melt all together, stirring it with a clean piece of wood; then add a quarter of an ounce each of essence of amber, vanilla and nevoli, to render the fluid agreeable. Never use curling irons, for they destroy the hair, rendering it crisp and harsh. The above may be depended on as being genuine and harmless.

407. TO PRESERVE PORK.

Take 1 lb. of black pepper and grind it fine for one barrel of pork, and sprinkle on each layer until is quite brown, then put on the salt. It helps to preserve the meat and adds greatly to the smell and flavour of it.

408. TO RESTORE TAINTED PORK.

In warm weather the brine on pork frequently becomes sour, and the pork tainted; pour off the brine, boil it, skim it well, then pour it back again upon the meat boiling hot. This will restore it even where it was much injured.

409. FIRE-PROOF CEMENT.

Fire and water proof cement for roofs of houses. Slack stone lime with boiling water in a covered barrel; when slacked pass six quarts through a fine sieve; to this add one quart of rock salt, and a gallon of water, boil the mixture and skim it clean; to every 5 gallons of this add 1 lb. of alum, and $\frac{1}{2}$ lb. copperas, and add by degrees, potash $\frac{3}{4}$ lb., and fine sand or wood ashes sifted 4 quarts; colour to suit your taste and apply. It will be as durable as stone.

410. BUG POISON.

Take of spirits of wine $\frac{1}{2}$ pint, turpentine $\frac{1}{2}$ pint, crude sal-ammoniac 1 oz; mix all together and let it

saturate for seven days, and it is ready for use.

411. DISINFECTING AGENT.

Take of green vitriol 3 lbs., hot water one pailful; dissolve the vitriol in the water; place this wherever there is any offensive odours, as that of a corpse, cesspool, privies, &c., and in a short time all smell will be removed. Try it.

412. BOOTH PATENT.

Booth's patent grease for railway axles, waggons, machinery, &c. Take of water 1 gallon, clean tallow 3 lbs.; palm oil 6 lbs., and common soda 1/2 lbs.; or tallow 8 lbs., and palm oil 10 lbs. The mixture is to be heated to about 210 degrees, and well stirred till it cools down to about 70 degrees, when it is ready for use.

413. GUM-ARABIC STARCH.

Take 2 oz. of white gum-arabic powdered finely; put it into a pitcher and pour on it a pint of boiling water; then cover it and let stand all night; in the morning pour it carefully from the dregs into a clean bottle; cork and keep it for use. A tablespoonful of this gum water stirred into a pint of starch that has been made in the usual manner will give to launs either black, white, or printed, the appearance of new, to which nothing else can restore them after washing. It is a good article for collars and shirt bosoms; also, when much diluted, for thin white muslin and bobbinet.

414. ROMAN OR MASTIC CEMENT.

Take of pulverised sand stone sifted fine, 20 lbs., litharge 2 lbs., mix both well with linseed oil to the consistency of paste; brush both broken parts over; press them snugly together, and let them dry, this forms an excellent cement.

415. PORTABLE BALLS.

For taking stains out of cloths, &c. -Dry fullers' earth so as to crumble it into powder, and moisten it well with lemon juice; add a quantity of pure pulverised pearl-ash, and work the whole up into a thick paste with a little water; roll it into small balls; let them completely dry in the sun, and they will be fit for use. The manner of using them is to moisten, with water, the spots on the cloth, rubbing the ball over, and leaving it to dry in the sun. On washing the spots in the water they will immediately disappear.

416. CLOTH, RAIN PROOF, &c.

To render cloth wind and rain proof. Boil together 2 lbs. of turpentine, 1 lb. of litharge in powder, and 2 or 3 pints of linseed oil. The article is then to be brushed over with this varnish, and dried in the sun.

417. CHOICE CEMENT.

A choice cement for china, crockery, and glass. Take of white glue 1/2 lb., dry white lead 1/2 lb., alcohol 1/4 pint, and rain water 1 quart; put the glue, alcohol, and water into a tin pan together; let stand until the glue is soft; then set the pan into a kettle of hot water, occasionally stirring it until the glue is about dissolved; then add the lead, being previously powdered, and stir until it is about dissolved. Bottle while warm, and it is ready for use. If cold when about to be used, set the bottle in warm water until soft; then apply while soft to both edges, set together and let then dry.

418. MAHOGANY STAIN.

Take of chip logwood 1 lb., sal-soda two pence worth, water 1 gallon, boil all together, apply it while hot, to every kind of white wood, using a brush or sponge, and it will produce a most beautiful mahogany colour.

419. MAHOGANY COLOUR.

Method of darkening every sort of wood. Take soap suds, wash your wood with it; every coat you put on will make it a shade darker.

420. SATIN WOOD STAIN.

Take of water 1 quart, fustic 2 oz., and the size of a small nut of alum; boil all together, apply it while hot, and it will produce a most beautiful yellow. When the article to which this has been applied has got perfectly dry, rub it over with lime water, and it will make a beautiful red.

421. RED STAIN.

Take of water 1 quart, brazil dust 2 oz., and the size of a nut of alum; boil together, apply while hot and the stain is red; when dry, wash it over with lime water, and it will be a beautiful purple.

422. BROWN STAIN.

Take of water 1 quart, logwood 2 oz., and one penny worth of soft soap, (such as is kept in bladders, by druggists), boil them together, apply while hot, and it will be brown; let it dry, and apply lime water, and you will have a beautiful black.

423. SCARLET STAIN.

Take a solution of aqua-fortis in water, apply it to the black, and it will produce a beautiful scarlet.

424. BRUSH VARNISH.

Take of spirits of wine 1 pint, gum benzion half a pound; dissolve the gum in the spirits. It may be laid on with a camel hair brush, or a small piece of wool rolled in old cotton.

425. TO BORE GLASS.

Fill a vial with turpentine spirits, dissolve in it as much camphor as it will take, insert then into this liquid the point of a common diamond pointed drill, and with it you can bore glass as fast as you please.

426. GERMAN SILVER.

Take of nickle 25 parts, zinc 25 parts, copper 50 parts, melt all together, and you have good german silver.

427. BRASS.

Brass is made by melting together a little less than two parts of copper, and one part of zinc.

428. CHEMICAL SOAP.

This is for washing cloths with one-half the labour of that with common bar soap. Take 16 lbs. English bar white soap, 3 1/2 lbs. sal-soda, 1 lb. pulverized rosin, 8 oz. salt; put these into 5 gallons soft water over a fire until dissolved; then put the same into a barrel, and fill it with cold water, after which add 2 oz. spirits of turpentine, and stir while cooling.

429. ENGLISH BAR SOAP.

Take of water 6 gallons, good stone lime 3 lbs., sal-soda 20 lbs., borax 4 oz., fat 15 lbs., (tallow is best,) pulverized rosin 10 lbs., and 4 oz. of beeswax; put the water in a kettle on the fire, and when nearly boiling, add the lime and sal-soda; when these are dissolved, add the borax, boil gently and stir until this is also dissolved, then add the fat, rosin and beeswax, and boil all very gently until it shows flaky on the stick, then pour into moulds.

430. BROWN WINDSOR SOAP.

This is made by colouring the English bar soap with the precipitate of iron, Venetian red, or vandyke brown, and scenting while not too hot with any of the essential oils, or a mixture of them according to fancy.

431. YELLOW SOAP.

This is made in the same way as the English bar soap, except that you add three percent of palm oil, deducting the same amount of fat.

432. SOLID LARD CANDLES.

Dissolve 1/4 lb. of alum, and 1/4 lb. of saltpetre in 1/2 a pint of water on a slow fire; then take 3 lbs. of lard cut into small pieces, and put into the pot with this solution, stirring it constantly over a very moderate fire until the lard is all dissolved; then let it simmer until all steam ceases to rise, and then at once remove it from the fire. If you leave it too long it will become discoloured. These candles are harder and better than tallow.

433. MEDICINES.

The following medicines are for man, while those commencing at receipt No. 331, and ending at No. 392 are for horses, cattle, &c., unless when stated to the contrary.

434. FOR DROPSY.

Take of powdered jalap 5 gr., powdered rhubarb 5 gr., powdered scammony 5 gr., powdered elaterium 1/2 gr., bitartrate of potash 1/2 dr., sulphate of potash 1/2 dr., and syrup of ginger sufficient to make into pills; mix and divide into five pills. These five pills given at once form an excellent hydragogue cathartic to clear the chest, relieve breathing and diminish the dropsical effusion.

435. ANTIBILIOUS PILLS.

Take of camomel 20 grs., jalap powder 20 grs., tartar-emetic 2 grs., and syrup sufficient to form into pills; divide into eight pills. The dose is two at bed time; repeated in the morning if necessary. This forms an excellent antibilious pill.

436. JAUNDICE.

Take of rhubarb powder 1 scruple, castile soap half a drachm, calomel 12 grs., mix and divide into pills; two or three to be taken at bed time; emetics, purges, fomentations about the stomach and liver, and exercise will seldom fail to cure jaundice when it is a simple disease; and when complicated with dropsy, a scirrous liver, or other chronic complaints, it is hardly to be cured by any means. Castile soap has been looked upon as a kind of specific.

437. ASTHMA.

Take of powdered squills 2 drms., powdered assafoetida 1 drachm, mix and divide into 30 pills, two to be taken twice or thrice a day. Useful in chronic asthma.

438. DR. DEWEES' ANTI-COLIC MIXTURE.

Take of carbonate of magnesia 1/2 drm., tincture of assafoetida 60 drops, tincture of opium 20 drops, white sugar 1 drm., and distilled water 1 oz.; mix and shake; twenty-five drops to be given to an infant of two to four weeks old, in flatulent colic, diarrhoea, &c.

439. DR. HUN'S ANTI-DIARRHOEAL MIXTURE.

Take of oil of cajeput 1 oz., oil of cloves 1 oz., oil of peppermint 1 oz., oil of anise 1 oz., alcohol 4 oz.; mix and shake; dose, from one to two drachms in hot brandy and water or syrup. This will afford the most speedy relief in diarrhoea accompanied with pain.

440. HOPE'S MIXTURE.

Take of camphor water 4 oz., nitric acid 4 drops, tincture of opium 40 to 60 drops; mix cork, and shake; dose, a tablespoonful every two hours in diarrhoea and dysentery.

441. ANTI-CHOLERA MIXTURE.

Take of tincture of opium 1 drm., liquor ammonia 1/2 drm., tincture of the oil of peppermint 1/2 drm., ether 25 drops, tincture of camphor 1 drm., tincture of capsicum, 1 drachm; mix, cork and shake. In real cholera give this all immediately; if the patient throws it up, repeat at once. This is an excellent prescription in extreme cases when the patient is cramped.

442. FOR HYSTERIC FITS.

Take of tincture assafoetida 2 drms., aromatic spirits of ammonia 2 drms., camphor water 7 ozs., mix and cork; give two tablepoonsful every three or four hours.

443. ANTI-ASTHMATIC MIXTURE.

Take of mixture of ammoniacum 4 oz., syrup of squill 3 drms., antimonial wine 60 drops, wine 1/2 oz., mix and cork. Give two tablepoonsful often, or when either the cough or shortness of breath is troublesome.

444. ANTI-RHEUMATIC MIXTURE.

Take of ammoniated tinc. of quack 1/2 oz., honey 1/2 oz., camphor water 6 oz., mix and cork. Take two tablepoonsful three or four times a day in chronic rheumatism; rub well the affected part with anti-rheumatic liniment.

445. ANTI-RHEUMATIC LINIMENT.

Take of tinc. of opium 2 oz., tinc. of belladonna 2 oz., powdered camphor 2 oz., oil of turpentine 2 oz., oil of sassafras 2 oz., oil of origanum 2 oz., and tinc. of capsicum 1 pint; mix all together.

446. DIURETIC MIXTURE.

Take of peppermint water 5 oz., wine 6 drachms, sweet spirits of nitre 1/2 oz.; mix. Two tablespoonsful to be taken three times a-day in obstruction of urinary passages.

447. SWEATING MIXTURE.

Take of acetated liquor of ammonia 3 oz., ipecacuanha 10 gr., tincture of oil of peppermint 15 drops, distilled water 5 oz.; mix. Three tablespoonsful to be taken every two hours, until it produces the desired effects.

448. FOR CRAMP IN THE STOMACH.

Take of ether 2 drms, white sugar 1 1/2 drms., tinc. of opium 60 drops, cinnamon water 2 oz.; mix. Give a teaspoonful every hour in cramp of the stomach.

449. FOR HOOPING COUGH.

Take of tinc. of assafoetida 1 drm, ipecacuanha 10 gr., tinc. of opium 10 drops, distilled water 2 ozs.; mix. Give to a child two years old a teaspoonful every four hours, increasing ten drops for every additional year.

450. FOR WINTER COUGH, &c.

Take of powered extract of liquorice 2 drms, gum acacia 2 drms, hot water 4 oz.; mix. Let all dissolve, and add tinc. of opium 40 drops, spirits of nitric ether 1 drm., wine of antimony 2 drms. Dose, one tablespoonful in catarrh and common winter cough.

451. TONIC MIXTURE.

Take of calumba 2 ozs., tinc. of muriate of iron 1 1/2 oz., sulphate of quinine 20 grs., brandy 6 ozs., water 1 1/2 pint, bruise the calumba and pour the water on it boiling hot, cover tightly for two hours, then strain, bottle, and add all the other ingredients, when the quinine is dissolved it is ready for use. This forms an excellent tonic in cases of debility. Dose, one tablespoonful three times a-day half an hour before meals.

452. ANTI-PERIODIC MIXTURE.

Take of sulphate of quinine 20 grs., sulphuric acid 1 drop, white sugar 1 drm., cinnamon water 2 1/2; put the quinine, acid and water into a vial together, when dissolved add the sugar. Dose, a teaspoonful every hour, between the paroxysms of intermittent fevers, fever and ague, &c.

453. EMMENAGOGUE MIXTURE.

Take of tinc. of aloes 1/2 oz., tinc. of chloride of iron 1/2 drm., tinc. of valerian 1/2 oz.; mix. Take a teaspoonful in chamomile tea two or three times a-day in cases of amenorrhoea.

454. ANTI-GOUT MIXTURE.

Take of ammoniated tinc. of guaiac 6 drms., camphor water 6 ozs., tinc. of rhubarb 1/2 oz., and honey 1/2 oz.; mix, by rubbing the honey and the guaiac up in a glass mortar, and then add the other articles by degrees. Give two tablespoonsful every four or six hours, and rub with the anti-rheumatic liniment.

455. ANTI-GONORRHOEAL MIXTURE.

Take of copaibe 1/2 oz., spirits of nitric ether 1/2 oz., powdered acacia 1 drm., powdered white sugar 1 drm., compound spts. of lavender 2 drms., tinc. of opium 1 drm., distilled water 4 oz.; mix. Dose, a tablespoonful three times a-day. Shake before using.

456. ANOTHER.

Take of copaibe 1 oz., sweet spirits of nitre 1 oz., gum acacia powdered white sugar 1 drm., peppermint water 4 oz.; mix, and let all dissolve. Dose, a tablespoonful three times a-day. Shake before using.

457. ASTRINGENT EYE-WATER.

Take of solution of acetate of lead 12 drops, wine of opium 11 drops, rose water 4 ozs.; mix, and let dissolve. This should be applied with a linen rag four or five times a-day.

458. EYE-WATER.

Take of distilled vinegar 1 oz., diluted spirits of wine 1/2 oz., rose water 8 ozs., mix. An excellent application to weak eyes after depletion.

459. ALUM EYE-WATER.

Take of rose water 2 ozs., distilled water 2 oz., and alum 1 scruple; mix and let dissolve. Excellent in chronic inflammations.

460. GARGLE OF BORAX.

Take of borax 1 drm., tinc. of myrrh 1/2 oz., clarified honey 1 oz., rose or distilled water, 4 oz.; mix. To be used as a gargle or mouth wash in sore mouth or affection of the gums. Omit the myrrh and water, and there is nothing better for the thrush in children; clean rain water answers about the same purpose, in all cases, as distilled water.

461. GARGLE FOR SORE THROAT.

Take of sulphate of quinine 15 grains, sulphate of copper 16 grains, aromatic sulphuric acid 1 drm., water 8 ozs.; mix and dissolve. To be used frequently in chronic and obstinate sore throats.

462. OINTMENT FOR PILES.

Take of lard 1 oz., solution of subacetate of lead 25 drops, tinc. of opium 1 drm.; mix well. Anoint the parts twice a day.

463. OINTMENT FOR ITCH.

Take of sublimed sulphur 2 ozs., lard 4 ozs., oil of lavender 1 drm. Make into an ointment. To be rubbed on the parts affected every night, till the eruption disappears. The internal use of sulphur will, in all cases, assist its external application.

464. BLISTERING OINTMENT.

Take of lard 32 parts, oil of almonds 2 parts, strong liquor of ammonia 17 parts; melt the lard, add the oil, then the ammonia, must be strong, and keep the contents of the bottle well mixed by shaking them until cold. This will blister in half an hour.

465. IODINE OINTMENT.

Take of iodine 3 grs., lard 2 drms.; make into an ointment; applied to scrofulous swellings when the skin is unbroken. It is the only cure for what is popularly termed thick neck.

466. OINTMENT OF IODINE OF ZINC.

Take of iodide of zinc 1 drm., lard 1 oz.; make onto an ointment. A drm. to be rubbed on twice a day in tumors.

467. OINTMENT FOR CHILBLAINS.

Take of lard 7 1/2 drms., creosote 10 drops, solution of subacetate of lead 10 drops, watery extract of opium 1 grain; mix. Apply to the affected parts.

468. OINTMENT FOR DISEASES OF THE SKIN.

Take of citrine ointment 1 1/2 drm., sublimed sulphur 1 drm., lard 3 ozs.; make an ointment. This is a good application for almost all affections of the skin.

469. EMOLLIENT OINTMENT.

Take of palm oil 2 lbs., olive oil 1 pint, turpentine 4 oz., red beeswax 6 ozs.; melt the wax in the oils, and then add the turpentine and strain the ointment. This is a most excellent application for inflamed parts, &c.

470. POKE ROOT OINTMENT.

Take of poke root 3 ozs., lard 1 lb., boil for a quarter of an hour and strain. This ointment has quite a reputation in Virginia, with the old ladies, for all kinds of old sores and ulcers, and it is an excellent application to indolent and purulent ulcers and sores.

471. OINTMENT FOR HYDROCEPHALUS.

Take of iodide of mercury 2 parts, iodide of potassium 3 parts, camphor 2 parts, lard 32 parts; mix and keep well corked. To be rubbed on the head in hydrocephalus or water on the brain in doses of half a drachm to a drachm.

472. LINAMENT FOR BURNS.

Take of olive oil 1 oz., linseed oil 1 oz., lime water 1 oz.; mix well. This forms an excellent application for recent scalds and burns

473. VOLATILE LINAMENT.

Take of olive oil 1 oz., aqua ammonia 1 oz.; mix. To be applied to bruises, rheumatic parts, &c., and to the neck in inflammation of the throat.

474. ALKALINE CATAPLASM.

Take of lye, rather weak, warm it and stir in of slippery elm bark or flaxseed, or meal sufficient to form a poultice. This is a most excellent poultice, and should be used more than it is. It is useful in inflammation of the breast and other parts, felons, wounds, fistula, &c.

475. ANODYNE FOMENTATION.

Take of laudanum 4 ozs., water 1 pint; mix. For painful affections of the joints, as chronic rheumatism, &c., hops dipped in hot vinegar will answer as well.

476. COMMON CLYSTER.

Take of flaxseed tea or cornmeal gruel, from one to two pints, sweet oil 2 or 3 ounces, common salt one teaspoonful, brown sugar two tablespoonsful; mix.

477. ANODYNE CLYSTER.

Take of a solution of starch in water, of jelly, or water half a pint, laudanum forty drops; mix. The whole to be injected in cases of dysentery, violent purging and pain in the bowels.

478. INJECTION FOR LEUCORRHOEA.

Take of sulphate of zinc 10 grs., tinc. of opium 1/2 drm., rose water 4 oz.; mix and dissolve. To be injected several times a day.

479 ANOTHER.

Take of alum 10 grs., rose water 4 oz.; mix and dissolve. To be used frequently.

480. ESSENCE OF BEEF.

Take of lean beef sliced 1 lb., put it into a bottle or jar closely corked; place this in a vessel of cold water and boil for an hour or more; then decant and skim the liquid. Chicken tea may be made in the same way. For more nourishing and palatable than beef tea, season it to suit the taste.

481. IMPERIAL DRINK.

Take of cream of tartar one drm., the outer rind of fresh lemon or orange peel half a drm., loaf sugar one ounce, boiling water two pints. When they have stood in a pitcher about ten minutes, strain off the liquor. This makes a beautiful cooling drink, and is an excellent article in fevers.

482. RINGWORM LOTION.

Take of sublimate of mercury, 5 grains; spirits of wine, 2 oz.; tinc. of musk, 1 drachm; rose water, 6 oz.; mix well, and rub well in.

483. WHISKERS AND MOUSTACHES.

The best method of promoting the growth of whiskers and moustaches, is to shave the parts frequently,

and use as a stimulant the ashes of burned tobacco macerated in bay water.

484 COUGH SYRUP.

Take of hoarhound, 1 quart; water 1 quart; mix and boil down to a pint; then add two or three sticks of liquorice and a tablespoonful of essence of lemon; dose, a tablespoonful three times a day, or as often as the cough is troublesome.

485. BLACK SALVE.

Take of sweet oil 1 oz., linseed oil 1 oz., pulverized red lead 1 oz.; put all into an iron dish over a moderate fire, constantly stirring until you can draw your finger over a drop of it on a board, when a little cool, without sticking; when it is done, spread on a cloth and apply as other salves.

486. SEIDLITZ POWDERS.

Take of rochelle salts, 2 drachms; bicarbonate of soda, 2 scruples; put these into a blue paper, and put 35 grains of tartaric acid into a white paper. To use, put each into different tumblers, half fill each with water, and put a little loaf sugar in with the acid, then pour them together and drink; this makes a very pleasant cathartic. Effervescing draught is made by leaving out the rochelle salts.

487. CAMPHOR ICE.

Take of spermaceti, 1 1/2 oz.; gum camphor, 3/4 oz.; oil of sweet almonds, 4 teaspoonsful; mix, and apply heat just enough to melt all together. Whilst warm, pour into small moulds, then paper, and put up in tin-foil. This, for chaps on hands or lips, cannot be equalled.

488. FOR SALT RHEUM.

Take a quantity of the pokeweed, any time in summer, pound it, press out the juice, strain it into a pewter dish, and set it in the sun until it acquires the consistency of salve; then put it into an earthen mug, add to it water and beeswax sufficient to make an ointment of common consistency. Simmer the whole over a fire till thoroughly mixed; when cold, it is ready for use. To be rubbed on the part affected. The most obstinate cases have yielded to this in three or four months. Try it.

489. ARTIFICIAL SKIN.

Dissolve gun cotton in sulphuric ether, and thicken it with gum mucilage. This article touched upon a cut or bruise, forms, immediately, an artificial skin, which cannot be washed off. It is very useful as it obviates the necessity of finger cots or bandages. It is excellent for sore nipples.

490. HAIR RESTORATIVE.

Take of sugar of lead, 1 oz.; lack sulphur, 1 oz.; essence of bergamot, 1/2.; bay rum, 1 gill; alcohol, 1 gill; and half a teaspoonful of salt; dissolve, first, the sugar of lead and sulphur in the alcohol, then the other ingredients; and add the whole to a gallon of warm soft water, then bottle it tightly, and it is fit for use. To be applied several times a day. This is a most excellent article, give it a trail.

491. TO REMOVE WARTS AND CORNS.

This is very often done by means of nitrate of silver, or some of the mineral acids; but the best caustic for this purpose is that recommended for cancer in the skin.

492. CANCER IN THE SKIN.

No one but an impostor will presume to cure a true cancer, containing the cancer cell, and situated in the muscles. Many times hard tumors, not containing the cancer cell, are called cancers, and are removed by different methods, which is very easily accomplished, without a danger of their returning; by which means base quacks become lauded by the illiterate, for their superior skill in banishing this dreadful malady, and the orphan, and finally, in consequence thereof, plunge themselves headlong over yonder precipice of eternal misery.

Cancer which are situated in the skin, and are sometimes called spider cancers, &c., may be cured by the following caustic: take of sulphate of iron, 1 part; and acetate of lead, 1 part; pulverize each separately, as fine as possible, and mix well together; then, by means of a probe or knitting-needle, touch the cancer with it every morning for three or four times, and you will be able to draw it all out; after which apply adhesive straps that it may heal. It is used in the same way to destroy corns and warts. In the case of cancer, physic well before applying it.

493. FOR WORMS.

Give a child one year old 15 drops of spirits of turpentine on sugar, fasting, for three mornings in succession; follow the last dose with a good dose of castor oil; this forms an excellent vermifuge. The dose of spirits of turpentine for a child two years old is 20 drops, three years old 25 drops, four years old 30 drops, &c.

494. SPASMODIC CROUP.

Genuine croup is indeed of very rare occurrence, and is a fearfully dangerous disease, the only chances are to call in a physician at once. In genuine croup, the child seems to have a cold and is hoarse for a few days previous to the attack; but the fit generally comes on suddenly in spasmodic croup, which may be treated as follows. During the fit put the child in a warm bath, apply hot water to the throat, allow fresh air, and sprinkle the face and chest with cold water.

495. FOR FLATULENCY.

Make a tea of the seeds of anise, caraway, and coriander, and drink freely of it.

496. FOR HICCOUGH.

Take five drops of oil of anise on sugar when they commence to be troublesome.

497. FOR HEARTBURN.

This is a very disagreeable sensation, but may be banished by taking a teaspoonful of carbonate of soda dissolved in half a tumbler full of sweetened water.

498. ERYSIPELAS.

This when very bad needs the attendance of a physician; when not so bad, paint the inflamed part over with white lead, mixed with paint oil, it is an excellent remedy.

499. FOR FELON.

Poultice well with flaxseed meal until matter begins to form, then at once have it well laid open with a lance, continue the poultice for some time afterwards.

500. HAIR RESTORATIVE.

Take of black mustard seed 1/2 oz., red pepper 15 grains, blood root 1/2 oz., cantharides 15 grains, castile soap 1/2 oz., alcohol one quart; mix all together in a bottle, let stand for a week, occasionally shaking. Perfume with oil of bergamot, and apply three or four times a day.

501. TO KILL RATS AND MICE WITHOUT POISON.

Slice up a quantity of corks, grease, and scent them with oil of anise; throw them in the way of the rats and mice; they will eat, but cannot digest them; the result is they will die.

502. EYE WATER.

One part of good brandy, to six of clean rain or distilled water, makes an admirable eye water for most cases of sore eyes.

503. FOR CHRONIC GOUT AND RHEUMATISM.

Take of bicarbonate of potash 1/2 drachm, tincture of orange 2 drachms, compound decoction of aloes 8

oz., mix. Dose, a wine glass full whenever the fit is expected. This is Sir A. Cooper's prescription.

504. FOR SICKNESS AND VOMITING.

Take of creosote 16 drops, acetic acid 16 drops, compound spirit of juniper 1 oz., syrup 1 oz., water 14 oz.; mix the creosote with the acid, add gradually the water, and lastly the syrup and spirit. Dose from two to four tablespoonsful.

505. LAXATIVE PILL.

Take of powdered aloes 1 drachm, gamboge 10 grains, Castile soap and water sufficient to make a pill mass; mix and divide into 34 pills. Dose, one, two, or three, to be given when necessary, for torpid bowels.

506. FOR HEADACHE.

In case of a severe attack of headache the best remedy is, generally, to take a good strong physic of salts and senna. If this does not relieve it, or where the person is very frequently troubled with headache, apply a blister to the back of the neck, you will find it an excellent remedy.

507. ANTIDOTES FOR POISONS.

The antidotes for poisoning with the strong mineral acids, such as nitric, muriatic, sulphuric, or oxalic acids are magnesia, chalk, whiting, in milk or water; mucilaginous or soapy liquids. When sulphuric acid has been taken, use very little water if any. Irritate the throat with a feather to produce vomiting.

The antidote for poisoning with corrosive sublimate or any other preparation of mercury, is albumen, as whites of eggs, in large quantity, flour and water, and milk. The whites of eggs are best.

The antidotes for poisoning by opium, or any of its preparations, as morphia, laudanum, &c., are the stomach pump if it can be had; emetic of tartar emetic, 2 to 5 grains, or sulphate of zinc, 15 to 30 grains, or sulphate of copper, 12 to 15 grs., for an adult. The sulphates of zinc or copper are best, because they act quicker. External excitation, keep in motion, mechanical excitement of respiration, cold effusion to the head and face, feet in hot water, electro-magnetism, internal stimulants, as bicarbonate of ammonia, 5 to 25 grains in water, carbonate of ammonia, 5 to 15 grains, in water, coffee and vegetable acids. Some propose as an antidote for every case of poisoning, half a pint of bland oil, as sweet oil, fresh butter melted to oil, &c., to be drank at once, for an adult.

508. TREATMENT OF DROWNING.

If respiration has ceased when the body is taken out of the water, it should instantly be commenced artificially, by putting a pipe into one nostril, and closing the mouth and the other nostril, and very gently

blowing through it about 15 times in a minute; but it is a better plan to use a small pair of bellows, putting its muzzle into the nostril, at the same time the body should be wiped dry, and be assiduously rubbed with hot cloths; hot bricks and bottles of hot water should be put into the armpit, between the thighs, and to the feet; the head should be raised, the nostrils irritated with a feather, or the fumes of hartshorn, and a warm injection of turpentine, made as follows, may be thrown up - oil of turpentine, 3 drachms; gruel, 1/2 pint; and the yolk of 1 egg. Incorporate the turpentine with the egg, then add the gruel. Galvanism should be resorted to, if respiration is not quickly restored. As soon as the patient can swallow, he should have some weak wine and water; and soon afterwards an emetic of a large tablespoonful of mustard, mixed with 6 ozs. of water, to clear the stomach of the water which he has swallowed, and to restore the circulation by the impetus of vomiting. After some hours he will suffer from severe headache and fever, which must be relieved by bleeding, purgatives, &c., which will be attended to by a physician, who will be present by this time. A case is related in which life was restored by the most persevering friction, which was kept up for eight hours before the humanity of the surgeon, Dr. Douglass, of Havre, was rewarded by a return of respiration.

509. GOOD SAMARITAN OR PAIN-KILLER.

Take of 95 percent alcohol 2 quarts, and add to it the following articles: oils of sarsafra and hemlock, spirits of turpentine, balsam of fir, chloriform, tincture of catechu and guaiacum, of each 1 oz., oil of origanum 2 oz., oil of wintergreen 1/2 oz., and gum of camphor, 1/2 oz. Let it all be well incorporated and you have the most excellent pain killer that was ever made. It is good for rheumatism, headache, neuralgia, cuts, sprains, burns, bruises, spinal affections, ear-ache, tooth-ache, sore throat, &c. This is used internally and externally, the dose internally is 10 drops; take on sugar.

510. THE LANGUAGE OF FLOWERS.

What each flower enumerated, signifies, when sent to a friend or lover.

Almond,	Concealed love.
flowering	I am deeply in love.
Althea, Frutex	Immortality, or piety.
Amaranth	Fading hope.
Anemone	Unchanging friendship.
Arbor-Vitae	Pride. You are proud.
Auricula, Scarlet	Hope in love.
Bachelor's button	I long for your society
Balm	Impatience; or, pray come.
Balsamine	I change but in dying.
Bay Leaf	I believe in your constancy.
Box	Riches. You are rich.
Buttercup	Magnificent beauty.
Calla Ethiopica	Pride and Beauty.

Carnation	Surpassing excellence.
Camelia Japonica	Think of me.
Cedar	Caprice.
China Aster	Despair, and without hope.
Cypress	Dignity - I will sustain it.
Dahlia	Youthful beauty.
Daisy	Coquetry, I accuse you of.
Dandelion	I wound to heal.
Eglantine	True love for ever.
Forget-me-not	Insincerity. You are false.
Fox-glove	Gentility and elegance.
Geranium	Thou art fair.
Gilly-Flower	Encouragement. You will succeed.
Golden Rod	Submission.
Grass	Love in idleness.
Heart's Ease	Devotion. Let us pray for each
Heliotrope	other.
Hellebore	Calumny. You have listened.
Hollyhock	Ambition. I seek glory.
Honeysuckle	Dost thou love me ?
Houstonia	Content ever with thee.
Hyacinth, Purple	Sorrow. I am sad.
Hydrangea	Heartlessness.
Ivy	Wedded Love. We are happy.
Jasmine, White	I desire a return of my affection.
Larkspur	Haughtiness.
Laurel	Ambition. I will win.
Laurustinus	A token. Pray remember.
Lavender	Acknowledgment.
Lilac	Fastidiousness.
Lily, White	Purity and beauty.
Magnolia	You are beautiful.
Marigold	Jealousy, I have cause.
Mignonette	I live for thee.
Moss	Patience, or pray wait.
Oak-Leaf	Courage. I will endure.
Passion-Flower	Piety. Trust in God.
Periwinkle	Memory. Never forget.
Pink	Household love. I am at home.
Poppy	Forgetfulness.
Primrose	Neglected merit.
Rose	Love, or I love you.
Rue	Disdain. Go: never return.
Saffron	Marriage - when ?

Snow-drop	Faithful in adversity
Thyme	Thriftiness. I am diligent.
Tulip	Beautiful eyes. Look on me.
Violet	I dream of thee.
Willow	Forsaken - never more.
Wheat	Prosperity - I wish thee.
Yew	Penitence. I am sorry.

511. THE WAY TO WEALTH.

"The way to wealth," says Doctor Franklin, "is as plain as the way to market." Many men, however, either miss the way, or stumble and fall on the road.

Fortune, they say, is a fickle dame - full of her freaks and caprices; who blindly distributes her favors without the slightest discrimination. So inconsistent, so wavering is she represented, that her most faithful votaries can place no reliance on her promises.

Disappointment, they tell us, is the lot of those who make offerings to her shrine. Now, all this is a vile slander upon the dear blind lady.

Although wealth often appears the result of mere accident, or a fortunate concurrence of favourable circumstances, without any exertion of skill or foresight, yet every man of sound health and unimpaired mind may become wealthy, if he takes the proper steps.

Foremost in the list of requisites, are honesty and strict integrity in every transaction of life. Let a man have the reputation of being fair and upright in his dealings, and he will possess the confidence of all who know him.

Without these qualities, every other merit will prove unavailing. Ask concerning a man, "Is he active and capable?" Yes. "industrious, temperate, and regular in his habits?" O Yes. "Is he honest? is he trustworthy?" Why, as to that, I am sorry to say that he is not to be trusted; he wants watching; he is a little tricky, and will take an undue advantage, if he can. "Then I will have nothing to do with him:" will be the invariable reply.

Next, let us consider the advantages of a cautious circumstances in our intercourse with the world. Slowness of belief, and a proper distrust are essential to success.

The credulous and confiding are ever the dupes of knaves and imposters. Ask those who have lost their property how it happened, and you will find in most cases it has been owing to misplaced confidence.

One has lost by endorsing; another by crediting; another by false representatives; all of which a little more foresight and a little more distrust would have prevented. In the affairs of this world, men are not saved by

faith, but by the want of it. Judge men by what they do, not by what they say. Believe in looks rather than in words.

Before trusting a man, before putting it in his power to cause you a loss, possess yourself of every available information relative to him. Learn his history, his habits, inclinations and propensities; his reputation for honesty, industry, frugality, and punctuality; his prospects, resources, supports, advantages and disadvantages; his intentions and motives of action; who are his friends and enemies, and what are his good and bad qualities.

You may learn a man's good qualities and advantages from his friends - his bad qualities and disadvantages from his enemies. Make due allowance for exaggeration in both.

Finally, examine carefully before engaging in anything, and act with energy afterward. Have the hundred eyes of Argus beforehand, and the hundred hands of Briarius afterward.

512. MAXIMS BY DR. FRANKLIN ON THE WAY TO WEALTH.

- God helps those who help themselves.
- Many words won't fill a bushel.
- Sloth, like rust, consumes faster than labour wears.
- The key often used is always bright.
- Dost thou love life ? Then do not squander time, for that is the stuff life is made of.
- The sleeping fox catches no poultry.
- There will be time enough for sleep, in the grave.
- If time be of all things the most precious, wasting time must be the greatest prodigality.
- Lost time is never found again.
- What we call time enough, always proves little enough.
- Sloth makes all things difficult, but industry all easy.
- He that riseth late must trot all day, and shall scarce overtake his business at night.
- Laziness travels so slowly, that poverty soon overtakes him.
- Drive thy business, lest it drive thee.
- Early to bed and early to rise, makes a man healthy, wealthy and wise.
- Industry need not wish.
- He that lives upon hope, will die fasting.
- There are no gains without pains.
- Help, hands, for I have no lands.
- He that hath a trade, hath an estate, and he that hath a calling, hath an office of profit and honour; but the trade must be worked at, and the calling well followed, or neither will enable us to pay our taxes.
- The drone in the hive makes no honey.
- At the working mans house hunger looks in, but does not enter.
- Industry pays debts, but despair increaseth them.
- Diligence is the mother of good luck.

- God gives all things to industry.
- Plough deep while sluggards sleep, and you will have corn to sell and to keep.
- One today is worth two tomorrow.
- Have you somewhat to do tomorrow, do it today.
- If you were a servant, would you not be ashamed that a good master should catch you idle ? Are you, then, your own master ? be ashamed to catch yourself idle.
- The cat in gloves catches no mice.
- Light strokes fell great oaks.
- By diligence and patience, the mouse ate into the cable.
- Employ thy time well, if thou meanest to gain leisure; and since thou art not sure of a minute throw not away an hour.
- A life of leisure and a life of laziness, are two things.
- Troubles spring from idleness, and grievous toils from needless ease.
- Many would live by their wits, without labour, but they break for want of stock.
- Industry gives comfort, plenty, and respect.
- Now I have a sheep, and a cow, everybody bids me good-morrow.
- I never saw an oft removed family, Nor yet an oft removed family, That throve so well as one that settled thee.
- Three removes are as bad as a fire.
- Keep thy shop, and thy shop will keep thee.
- If you would have your business done, go; if not, send.
- He that by the plough would thrive, himself must either hold or drive.
- The eye of the master will do more work than both his hands.
- Want of care does us more damage than want of knowledge.
- Not to oversee workmen, is to leave them your purse open.
- In the affairs of the world, men are saved not by faith, but for the want of it.
- Learning is to the studious, and riches to the careful, as well as power to the bold, and heaven to the virtuous.
- If you would have a faithful servant, and one that you like, serve yourself.
- A little neglect may breed great mischief.
- For want of a nail the shoe was lost;
For want of a shoe the horse was lost;
For want of a horse the rider was lost -
Being overtaken and slain by the enemy.
- If a man save not as he gets, he may keep his nose to the grindstone all his life, and die not worth a groat.
- A fat kitchen makes a lean will.
- Many estates are spent in the getting, since women for tea, forsook spinning and knitting, and men for punch, forsook hewing and splitting.
- The Indians did not make Spain rich, because her out-goes were greater than her incomes.
- What maintains one vice would bring up two children.
- Many a little makes a mickle.
- Beware of little expenses; a small leak will sink a great ship.
- Who dainties love, shall beggars prove.

- Fools make feasts, and wise men eat them.
- Buy what thou dost not need, and ere long thou shalt sell thy necessaries.
- At a great bargain pause awhile.
- It is foolish to lay out money in the purchase of repentance.
- Wise men learn by another's harms, fools scarcely by their own.
- Silks and satins, scarlet and velvets, put out the kitchen fire.
- A ploughman on his legs, is higher than a gentleman on his knees.
- Always taking out of the meal tub, and never putting in, soon comes to the bottom.
- When the well is dry we know the worth of water.
- If you would know the value of money, try to borrow.
- Fond pride of dress is sure a very curse.
- Ere fancy you consult, consult your purse.
- Pride is a loud a beggar as want, and a great deal more saucy.
- Vessels large may venture more, but little boats should keep the shore.
- Pride that shines on vanity sups on contempt.
- Pride breakfasted with plenty, dined with poverty, and supped with infamy.
- The second vice is lying; the first is running in debt.
- Lying rides upon debt's back.
- It is hard for an empty bag to stand upright.
- Creditors have better memories than debtors.
- Creditors are a superstitious sect, great observers of set days and times.
- The borrower is a slave to the lender, and the debtor to the creditor.
- Experience keeps a dear school; but fools will learn in no other and scarce in that; for we may give advice, but we cannot give conduct.
- They that will not be counselled cannot be helped.
- Distrust and caution are the parents of security.
- There is neither honour nor gain got in dealing with a villain.
- Light purse, heavy heart.
- Ne'er take a wife till thou hast a house (and a fire) to put her in.
- Great talkers, little doers.
- Relation without friendship, friendship without power, power without will, will without effect, effect without profit, and profit without virtue, are not worth a farthing.
- He has changed his one-eyed horse for a blind one

TO ALL WHO HAVE PURCHASED THIS WORK.

You are now in possession of about all the latest and most useful receipts that are in the country; many of which are now being sold, frequently, for from \$5 to \$10 and \$20 each; and if you will now be wise, do that which will be to your own interest, allow no man to see this work, but keep the receipts profoundly secret, except as you sell them. You may dispose of enough of them, written off, every year you have the book, to amount to twenty times the price of it.

Toronto, 1861

Honorary Doctorate Program

Cosmopolitan University

Gloria brevis est, honor longa est. Glory is fleeting, honor is forever.



Become an Honorary Doctor



You too may qualify for the highest degree available on this planet.



You too may deserve an Honorary Doctorate and the right to put Dr. in front of your name! Obtain a more prosperous future, and the admiration of all.

You too may deserve to be on our list of honorary doctors and experts, the biggest and most reputable list of its kind on the Internet.



Honorary Doctorate Program

Cosmopolitan University grants an Honorary Doctoral Degree to distinguished individuals who apply and qualify by meeting our standards.

Michael Jackson has one, Frank Sinatra, Ella Fitzgerald, Bob Hope, Robert Redford, Bill Clinton, George Bush and so on.

Sad enough one has to be either rich or famous or both to attract the offer of a university.

More than one thousand traditional universities award honorary doctorates. But the standards and the donations they expect are ridiculously high.

What we are doing at Cosmopolitan puts into perspective somewhat, the whole aspect of the real purpose of honorary degrees. In fact, in our process we actually are recognizing people for their societal accomplishments rather than for the typical recognition of a monetary relationship or as a publicity stunt.

Cosmopolitan University now grants an honorary doctoral degree too. We feel that lots of distinguished people deserve an honorary degree, not just the rich and famous.

The owner of an honorary doctorate is given the legal right to use "Doctor" before his or her name, it carries the same title "Doctor" that's used for a regular degree.



Honorary Doctorate Program

- Your honorary degree will stem from a legitimate, renowned and thriving university. Cosmopolitan University uses this program to raise funds for some of its research projects (through a reasonable handling fee that applies). The university maintains a complete and permanent record on each honorary doctor and responds promptly to requests for validation when authorized by the recipient.
- Your name will also be published on the CU's list of recipients of honorary degrees (optional, it is up to you to be published or you choose NOT to appear on that list).



Outstanding Honorees



Our list of honorary doctors keeps growing. It is a list of a very illustrious club of successful and distinguished members of our society - worldwide. Among them recipients like the former

- German president Johannes Rau
- Mandela, Nelson Rolihlahla, former president of South Africa, winner of the 1993 Nobel Prize in peace
- Ingenious minds like Walter Krohn who invented The Krohn Mechanical Mine Clearance System ,
and many other high ranking renowned achievers from all walks of life and many countries, such as
- Dr. T.J. Hawkeswood, from New South Wales, Australia, one of the greatest entomologists of all time, if not THE greatest , who has written over 270 scientific papers and other articles in biological and natural history journals. His knowledge of all insect and plant life is legendary
- And Harrell, David B., B.Sc., an innovation research director, USA, a successful sleep medicine researcher
- Reinaldo Irizarry, Sr. MBA. DPA, USA, a veteran of the Vietnam war with twenty one years of experience in local law enforcement, and five years of experience in federal law enforcement -
- Pfarr, Roland Klaus Paul, entrepreneur. Pfarr Stanztechnik GmbH, developed and patented a lead-free solder as an alternative for tin-silver-copper which is used in the electronics and (foremost) automobile industry



Outstanding Honorees

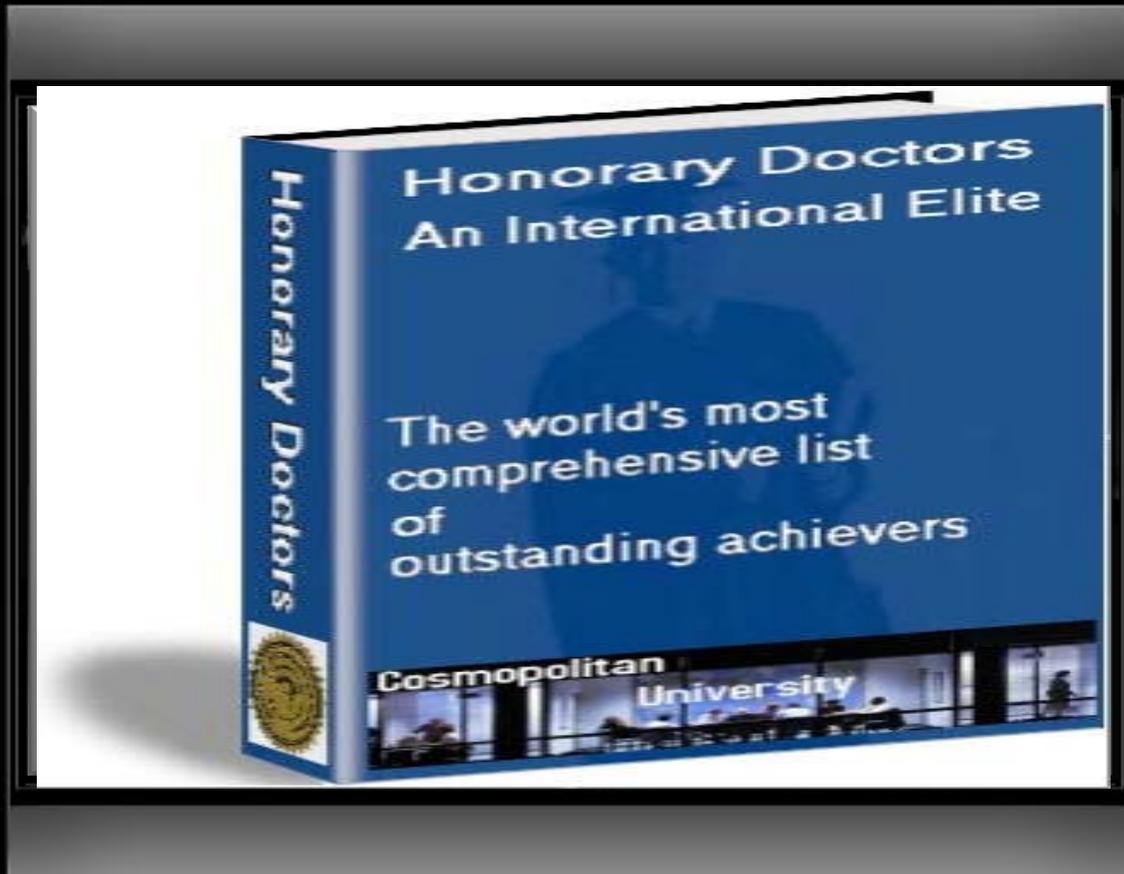


- Among our honorees are also His Holiness Tenzin Gyatso, the 14th Dalai Lama, winner of the 1989 Nobel Prize in peace -
- Dr. Stephen Seely, United Kingdom , an elected member of the New York Academy of Sciences who was a research fellow at the cardiology department of Manchester university 1983 – 1993. He appears in the Guinness Book of Records as the longest serving scientific writer, with the earliest written article published in a German psychological journal in 1934 -
- Dr. Udo Doebbeling, a Swiss senior scientist who has a vast experience of over 15 years in molecular biology research -
- Stephan Augustin, Germany, inventor of the watercone™, providing an inexpensive way to swiftly make contaminated or seawater drinkable-
- Dr. Wolfram Loch, a German engineer and the first person in the world who photographically documented the development of a blizzard in a laboratory, 1963 -
- Dr. Thomas Paikeday, Canada, full-time accomplished lexicographer of American and Canadian English dictionaries since 1964.
- Hans I. Mondermann, Holland, the engineer who invented the concept of the shared place in traffic planning. http://en.wikipedia.org/wiki/Hans_Monderman

And our list goes on and on. Check it out at <http://www.cosmoedu.net/hclist.html>



Get our list of Honorary Doctors



Click on book cover to get the free list of global achievers.



How to apply for our honorary doctoral degree



To apply just send us an [email](#).
We will email you all the details right away.



Become an Honorary Doctor



**Act TODAY. This offer will not last forever,
in fact it's a once in a lifetime opportunity to boost your social status.**

NOTE: There is a reasonable handling fee to be paid. (AFTER you have been approved and decide to proceed - the evaluation of your resume is free and non-binding.) That one time fee covers shipping, processing and handling of your documentation, the rest goes into the funding of CU's research projects. There are NO additional costs. [Click here](#) to ask for the current fee and methods of payment via email... you will get a quick response.



Ceremonies

Prof. Dr. Pongracz, former Consul General, (left) hands over the honorary doctoral award to Dr. Michael Carsch at a commencement ceremony in Germany which was attended by many invited guests including representatives of the city of Bremen and the local bar association.



Ceremony in Germany, Sept. 2nd, 2004



Decision-makers from 36 countries



Ceremonies

A commencement ceremony took place in India in January 2004 at which honorary doctor diplomas from CU were conferred. See more pictures [here](#).



Decision-makers from 36 countries



Further Links

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Cosmopolitan University](#)

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Give it a try.