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W. H. A. will find directions for bleaching
 M. will find directions for coloring putty on p. 107 , vol. 31-R. R . C. . C. can plate iron with silver by the
process given on p. 314, vol. $24 .-\mathrm{W} . \mathrm{H}$. W. will find an explanation of sailing faster than the wind on
p. 176, vol. $28 .-$ R. H. H. will find directions for bronzing on iton on p. 283, vol. 31. .H. E. will fin
directions for case-hardening iron on p. 69 vol. 31 -F. E. H. will find a recipe for marine glue on 43, vol. $32 .-$ E. E. W. will find the recipe for furniture polish and also for finish for black walnut on
p. 315 vol. $30 .-$ J. K. S. and J. S. S. should each consult a physician.-C. G. M. will find a descrip. tion of the wonder camera on p. 26 , vol. 31-C. C. S.
will find directions for preparing muriate of ammonia for inhalation on p. 315, vol. 31.-W. H. an not be an instrument for indicating hidden treas-ure-J. D. will find directions for softening and toughening wood on p. 319, vol. 31.
(1) W. J. A. asks: Will nitro-glycerin ex-
plode througha capillary tube? A. If we under stand your question, yes.
(2) C. D. B. asks: What kind of oil is the best to preserve shoe lenther, and to
A. You will fin neatsf oot oil the best.
Will a compound of cologne, hartshorn, thncture of cantharides, oil of lavender, oil of rosemary,
and oil of nutmeg injure the skin? A. Probably and oif of nutmeg injure the skin? A. Probably quantity. Cologne is mostly all aleohol, which has
a very injuriouseffect upon the skin if used frea very injuriouseffect upon the skin, if used frequently, by dissolving out the natural oils, leaving
the skin harsh and dry. If in the formula you
 ogne, then the cologne is of no use on the ski
and can be dispensed with; if, on the other hand the cologne is in excess, the oils are of no use, as the uncombined alcobol is free to unite with the
oils and fats of the skin. Unless the skin is dis oils and fats of the skin. Unless the skin is dis-
ase
(3) F. S. asks: How can I use india rubber
neithor turpentine or naphtha without Impairing In eithor turpentine or naphtha without Impairing its elasticity? A. Ououtchouc dissolves in bisul-
phide of carbon, coal naphtha, and rectifed oil of tide of carbon, coal naphtha, and rectifled oil or
turpentine. In these liquidsit Arret swells $u$ very considerably, and eventually forms a ropy liquid, which, on evaporation, leaves the caoutchouc with its original elasticity
(4) F. W. asks: How is nitro-glycerin mad Is there such an invention as the screw of Arch imedes for elevating water? A. The screw of Archimedes, called after the philosopher that in-
vented it is one of the simplest machines for raisvented it, is one of the simplest machines for ra.
ing water, and operates at only short distances. It cylinder the lumer end of which dips beneath th water at an angle of about $35^{\circ}$, the upper end be ing supported by a suitable arrangement, and fast
(5) R. S. G. asks: What are the ingredients of Seidilitz powders?
A. Rochelle salts 1
drachm sarbonate of soda 25 grains, tartaric acid 20 grains Dissolve the two first in a tumbier of water, the (0) P ,
(6) N. P. K. asks: 1. How can I prepare hard enamel? A. Mix 100 parts of pure lead with
30 to 25 of the best tin, and bring them to a low red heat in an open vessel. The mixture then burns nearly as rapidily as charcoal, and oxicizese very fort; skim of the crusts of oxiue successive
ly formed, till the whole is thoroughly calcined Then mix all the skimmings and again heat as be fore, till no flame arises from them, and the whol of a uniform gray color. Take 1 (i) parts of thi
oxide, 100 parts of white sand, and 25 or 30 of com mon salt, and melt the whole by a moderate heat. Tiis gives a grayish mass, often porous and apparently imperfect, but which runs to a good en
amel when
ater low quality of gold to the oolor of 18 carat gold A. Alloy it with the proper proportion of silve
and copper. 3 . I have a quantity of silver melted with lead; it is so brittle that I oannot roll it. Ho can I get it in condition to work? A. Thedesired object may be attained by melting the alloy in
cupel formed of bone ashes. The lead is gradual I oxidized, melted, and absorbed by the porous
matertal composing the cupel matertal composing the cupel.
(7) H. P. A. says: I am now using the sap part of the white wood tree, cut to the thickness
of 36 to the inch. In order to cleanse It of the sap and woody taste, I boil and frequently change the water, yet do not get it tasteless. How can I
cleanse it of the taste without injuring the strength of the wood? A. Try weak lye, and water after-
(8) T. B. C. asks: Is there any way of restoring marble that has been spotted with lemon Juice? A. Marble being a carbonate of lime, the
action of such an acid upon it would be to enter action of such an acid upon it would be to enter
into combination with the lime, expelling the carinto combination with the lime, expelling the car-
bonic acid, forming a different body from the original marble; and from the fact of its being a notice, leavin the surface of the polished plate you speak of We do not think it can be remedied.
${ }^{(9)}$ H. S. says: What is the simplest way to make an apparatus for blowing glass, such as is used by men that travel the conntry? A. What
you requireis a current of air forced upon a Aame produced from a wide illuminating surface, as a arge wick, or, better, a gas flame widened and
(10)
(10) A. C. B. asks: 1. Is there any way to hardsen coin siver? A. We do not know or any.
for for fine work, and will not scale wheu heated? A Try the alloy known as packfong, or German sil.
ver, a compound of nickel, zinc, and copper, in ver, a compound of nickel, zinc, and copper, in
which the proportions vary considerably. A good alloy consists of 5 equivalents of copper, 3 of zinc
and 2 of nickel. Packfong is of a yellowish whit and 2 of nickel. Packfong is of a yellowish whit color, and, when new
ilverin appearance.
(11) F. C. asks: Will anything dissolv Yes, ammoniacal salt.
(12) H. H. asks: How can I make bisul phate of tin? A. You probably mean bisulphide of tin ( $\mathrm{Sn}_{2} \mathrm{~S}_{2}$, known also as mosaic gold; it forms tained by preparing an amalgam of 12 parts of tin and 6 of mercury; thisis reduced to powder an mixed with 7 parts of sublimed sulphur and 6 of sal ammoniac. Thismixture is introduced into lask with a long neck, and is heated gently so lon as any smeil or suphietted hydrogen is percept calomel and cinnabar are sublimed, and a seal mas of $\mathrm{Sn} \mathrm{S}_{2}$ remains. If the heat be pushed to far, part of the sulphur is expelled and the operation fails ; the sal ammoniac appears by its volatilization to moderate the heat produced during
the sulphuration of the tin, which would other rise high to decompore the bisuide. (13) F. C. and others.-Most medical author-
it 18 agree that the rightside is the better to sleep tues agree that the rightside is the better to silee
upon; but this is not always the case, the numbe upon; but this is not always the case, the number
of persons who sleep upon the left being as many as those who use the right side. It is simply a matter of convenience and ease, it being folly t insist upon a
discomfort.
(14) J. W. asks: 1. What is the tenacity of gold wire having take 220 ibs. weight to break gometr, if the gold be annealed. If the gold bo
imeter drawn, it wis require 616 fres. to break it .
When gold is consumed by fre, what is the color o he flame? A. Molten gold exhibits a sea green through a pellicle of silver? A. Bluish, 4. When sil ver is consumed by fre, of what color is the flame A. The spectrum of silver is green. . 5. How can
cinnabar be converted into a yellow pigment A. Continued pulverization will change the bric ed color of cinnabar to an orange yellow.
(15) F. W. B. says: I have some white silk
which has become yellow by washing. How can I which has become yellow by washing. How can
restore it to its original color, without injurin restore it to its original color, without injuring
the silk? A. Try steeping it for a short time in the silgr A. Try steeping it or a ashort time in
vinegar or lemon juice, after having perfectly vinegar or lemon juice, after
deaned it. Rinse in cold water.
(16) J. H. L. asks: How can I illuminat tableaux with a strong light, and have changes of
color without resorting to the use of disagreabb compounds? How can I prepare and use the cal cium light for the above purpose? A. The magne sium light is sometimes used for this purpose The method of obtaining it consists in burning
maguesium ribbons which may be obtained from maguesium ribbons which may be obtained from
any chemist or dealer in theatrical goods. In the any chemist or dealer in theatrical goods. In the
calcium or lime light, an ignited jet of the com pound gas (oxygen and hydrogen) is caused to im the apparatus used for this purposese, the gaees ar conducted by separate tubes to the burner, which they enter at opposite sides, a few inches from the
tip of the burner. The burner or jet should b tip of the burner. The burner or jet should be
bent towards the vertical surface of the lime at an bent towards the vertical surface of the lime at an
angle of about 450. The lime should approach the tip of the jet within $\frac{1}{15}$ of an inch. The gases oxygen gas is obtained by heating together, in a iron or copper bottle, chlorate of potash with one
quarter its weight of peroxide of manganese. Hy drogen gas may be obtained by acting upon scrap The first porton af the gas if ebtpined in acid The frrt portions of the gas, if obtained in this
manner, should be allowed to escape, otherwise its mixture with the air in the apparatus forms a very explosive misture. Ordinary illuminating or coal gas, if obtainable, will answer the purpose as well as pure hydrogen. Both the above gases are
washed before being allowed to enter the bags. washed before being allowed to enter the bags
This is arranged as follows: A small bottle is obtained, which is partially flled with water; throug a tightly fitting cork in the mouth of the bottl and dips beneath the surface of the water, the
other barely pasee through the cork. In order to other barey pances through the cork. In order to
use this washer, the tube which dips under the
water Is attanoed by rubber tubing to the genera
ting flask, and the end of the other tube, which just passes through the cork, is attached to the re-
ceiving bag. Thus arranged, the gas as generated ceiving bag. Thus arranged, the gas as generated
is required to pass through the water. Care should be taken (in the generation of the oxygen) at the does the operation that the water in the bottle does not run back into the generating flask, other-
wise an uncontrollable quantly of steam will be enerated from contact of the moisture with the not metal.
(17) F. N. J. and others.-The statements
nade as to the preparation of musk are on the made as to the preparation of musk are on the
authority of a work recently published on perauthority of a work recently pub
fumery, and presumably reliable.
(18) D. S. M. asks: 1. What effect will lum water have on flour when used for dampening wheat before grinding it? A. Probably the
same as when applied after the wheat in ground sa is often done by bakers. 2. Will it toughen the wheat so as to give a better yield? A. We think
not. 3. Is it infurious to health? not. . I. Is it injurious to health? $\Delta$. Yes. This
method of whitening the bread is prevented by neavy fines and penalties in England.
(19) S. C. B. asks: Does soap boilers' refuse culturan anything unf Dorabe to its use for agri(20) W. O. P. says: We frequently find nelted lead a. we are burning coal. A boy once showed me a
piece of what I presume was lead orer $I$ could cut it piece of what presume was lead ore; I could cut it
with ease with my procket knife. $A$ few dass ago we heard a snapping report in the stove, and my brother's hand. Are not these facts indications of lead in quantity somewhere in the dis-
trict? A. Yes. 2. If so, would it be found above or below the coal vein? A. It might be found beow as well as above. 3. If there be lead, how fully examining the exposures of the rocks for the vein, and by surface indications of minerals containing lead.
(21) K. B. F. asks: Is carbolic acid a poison taken internally or applied outwardly? A. It is a
poison in both cases. It acts similarly to creosote (22) S. T. asks: How are paper magnetic shmade, so that when they are put in the palm of the hand they will draw up and turn over as if alive? A. They are made of thin gelatin, called for the same purpose. Will tobacco smoke rubber tubing? Will vinegar corrode it? A. Neither will have any permanent effect.
(23) J. S. \& Co. ask: What is a good solution for tempering steel for drilling rock? A. Be careful not to overheat it in hardening and forg-
ing, and quench in salt water, drawing to a brown ing, and
color.
(24) J. P. S. says: I recently came across a of small stones about the size of a hen's egg. It and mall mall stream, and on a hill fully 100 feet above the conglomerates, and are quite common in some
(25) O. A. Jr. asks: How can I drill hard drill to a straw color, and run it slowly. Should anice (26) W. W
(26) W. W. B. says: An apparatus for gold 4 ozs. cyanide of potassium and 4 ozs. carburet of
ammonia, dissolved in 1 gallon rain water. Then add 12 grains gold (orsilver), apply battery,and add blu vitriol until a blue color is obtained. Battery Put nitric acid in the porous cup, and diluted sulin the porous, and zinc in the outer with small copper wires. I use the gold solution hot. I am very careful to clean thoroughly thearticles plated, but thework will not last six months. Can you in form me of a process by which I can do plating hat will last one, two, or three years? A. To make a silver solution, dissolve the silver in fou partsof nitric acid and one of water; the diluted degrees. After the metal is diesolved, put it in large veesel and dilute with water. Then add a 0 lution of cyanide of potassium so long as a white
precipitate is formed. When the precipitate of cyprecipitate is formed. When the precipitate of csanide of silver has settled,the clear solution is cate
fully decanted. and the vessel filled with water wich is again decanted as soon as the precipitat peat thisthreeor foursium until the precipitate of cyanide of potassiun is the ready for use, after filtering. Dilute the cyanid of potassium so that theplating solution shall con ain one ounce of silver to a gallon. A prepara-
ion of solution of gold is prepared by discolving old in three parts muriatic acid and one of nittic cid, which forms the chloride of gold. This is di ested with calcined mageesia, and the gold is pre cipitated as an oxide. The oxide is boiled in strong itric acid, which dissolves any magneeia in unio with it. The oxide, being well wathed, is diesolve in cyanide of potassium, which gives cy cyide o
old and potassium. A Smee or Daniell battery is better than a carbon battery for silver and gold plating.
(27) B. D. T. asks: How are plow castings them cool in the mold.
(28) L. G. atks : 1. What kind of grease is best to use in the oil cups of engine cylinders ? A.
Tallow. 2. Which oil is most to use on engine Tallow. 2. Which
slides? A. Lard oil
(29) Y. P. says: I have made a nickel solu moniac or chloride of ammonia to a gallon of sul

