terra cotta lumber made of sawdust and clay, then sun is the best agent. Chemicals for bleaching bees-! cal poisons will have no effect upon it. Our correspond have until very lately been the largest sizes.

- (3) S. H. B. asks for information upon the subject of slate pencil manufacturing from soapstonethe machinery used and the process employed. A. Soapstone pencils are mostly made in New Hampshire near the quarries. The soapstone is sawed in blocks the length of the pencil, then into slabs of the proper thickness, then run through a set of thick saws that cut half way through the slab and round one side, when the slab is turned over and run through on the other side. Or in better machines there are two sets of saws, above and below, so that the slabs are pushed through, one following another, and are delivered finished except pointing. The pointing is done with a machine or a quick running grindstone.
- (4) H. B. says: The question how to mix and use the composition for enameling iron, etc., was satisfactorily answered. 1. Can I use a stove oven to that the second story can be used for roller skating, and dry the composition in, if so, at what degree of heat, not make a noise in the lower or ground floor story. A. must the oven be before putting the article to be dried in? A. Any oven will do to dry in. Hot enough to evaporate water. 2. Is it really necessary that the glazing should be used, or cannot the glazing be used glazing makes the finish, and assists to vitrify the first the matched floor stuff to the strips. There are a vacoat. The glazing alone would show the color of the iron. Itmight answer your purpose. 3. Can either of double ceiling below, a double or independent floor the compositions given in above paper be used on sheet iron or tin, as well as iron? A. You can enamel the old floor, etc. sheet iron by taking off the scale with muriatic acid 1 part, water 4 parts. When the scale is loosened, wash in water and dry quickly in an oven; you cannot enamel
- (5) P. J. B. and H. S. L.—Gold having the red color of 14 carat gold may be deposited by the battery in the following manner: Prepare a solution of copper cyanide by adding potassium cyanide to a solution of copper sulphate until the precipitate at first thrown down is redissolved. Add to this a solution of gold cyanide (prepared by dissolving 1 ounce of fine hair is first thoroughly cleansed with salsoda, and the gold in 28 pennyweights nitric acid and 2 ounces hydrochloricacid and adding one quart hot water, and treating this solution with 5 ounces potassium cyanide in 1 quart water) in sufficient quantity to give on trial the desired color of gold deposit. When using this solution, the positive e'ectrode plate should be of gold of the same color as that desired to be deposited. For 10 carat gold the process is similar.
- (0) A. P. asks (1) how to take the rust off a bicycle, the rust having been on over a year. I have tried oil and sand, also oil and emery paper. A. to dry very thoroughly before using it. Rub with kerosene oil or spirits of turpentine. 2. Also, is there any solution to make steel shine just as if it was nickel plated? A. Nothing except polishing. 3. Also of a solution, when you dip nickel or silver pieces into it, it will gold plate them, without a battery. A. Wash thoroughly a quarter of an ounce of gold chloride; then add it to a solution of 2 ounces potassium cyanide in one pint of distilled water; shake well, and let stand until the chloride is dissolved. Add 1 pound prepared Spanish whiting, expose to the air till dry, and then put away in a tight vessel for use. When applied, it is mixed into a paste with water, and rubbed on the surcotton flannel. The surface of the article should be thoroughly cleansed before the plating powder is ap-
- (7) W. S. N. writes: I am reclaiming solder, and would like to know of a good method of cle, zing it from impurities, such as wood ashes? Also if you can tell me whether it would pay to manufacture solder on a small scale? A. We hardly think the practice of reclaiming solder a paying occupation. Something is done in the way of separating the scrap tin from iron in refuse tin cans. The meta's are separated by means of electrolysis, and the tin converted into the sulphide, in which it is commercially known as mosaic gold. The factories. 2. Can I remelt light sheet iron, and what kind of a furnace would you recommend to use? Could the iron be used for small castings? A. The iron found more satisfactory than any mixture. would be burnt in melting it, and therefore would be upsatisfactory for castings. 3. Are there any practical books on these subjects that would be useful to me? A. Spons' Workshop R ceipts would probably contain information on the subjects you are presumably in-
- (8) E. C. writes that a liquor of meal and water, that has been fermented, soon turns sour, and he says: " I wish to arrest the further formation of acid at a certain stage of sourness, and keep it at this same sourness" A. We would recommend you to use salicy lic acid. This agent is used twice in the process of preserving beer; first sufficient is added to act on the lactic before it degenerates into the acetic stage. The two doses together do not amount to more than 0.05 grain
- (9) C. J. T. asks · What are the best means to adopt to press flowers, leaves, and fern fronds, so that the flowers will retain their colors and the fern What is the best substance fronds their greenness. to use for making them adhere to cardboard, etc? And how are flowers preserved? A. For this information see page 2536 of Scientific American Supplement, No. 159. Ordinary mucilage will cause them to adhere to cardboard. Flowers may be preserved by dipping them intomelted paraffin, withdrawing them quickly. The liquid should be only just hot enough to maintain its fluidity, and the flowers should be dipped one at a time, held by the stalks, and moved about for an instant to get rid of air bubbles.

burned in an oven. This is as near making lumber out of sawdust as we have yet come. 2. A New England wax into thin flakes, and lay it on sacking or coarse may easily be rendered innocuous to the plant by form paper recently told of a Western mill that was running | cloth stretched on frames resting on posts to raise them the largest circular saw in the world, 60 feet diameter, from the ground. The wax should be turned over fre-700 revolutions, and 12 inches feed. What are the true quently and occasionally sprinkled with soft water, if figures? A. The big saw you speak of was reported as there be not dew and rain sufficient to moisten. If it 6 feet in diameter, and we believe a few such are in use be found after exposing it for some time that it is in Wisconsin and Minnesota, although 60 and 66 inches still yellow inside, it will be best to melt it again, and flake and expose it again. Sometimes the wax is bleached by passing melted wax and steam through long pipes so as to expose the wax as much as possible to the action of the steam, thence into a pan heated by a steam bath, where it is stirred thoroughly with water and then allowed to settle. The repetition of this process several times before sun bleaching facilitate- the process. 2. What is the most economical way to make wax? Should dirty comb ever be used? A. The beeswax is obtained by melting the combs, after expression of the honey, in boiling water, on which it soon floats; it is then left to cool, remelted without water, and run into moulds of various sizes and forms. By removing any dirty comb it naturally follows that the process will be a more rapid one and the result more satisfac-

- (11) E. M. asks how to deaden a floor so To deaden a floor partially, perhaps enough for roller skating, cover the old floor with asphalt felt, such as is used for roofing, or thick straw board, or three thicknesses of paper carpet lining. Lay a new floor upon without putting on the other composition? A. The this by laying wall strips upon the paper and nailing riety of ways more expensive and better, such as a over and clear of the old floor, plaster deafening under
  - (12) E. L. F. asks for further particulars about how to make hair dye from green walnut shells. A. The article is the expressed juice of the bark or shell of green walnuts. To preserve this juice a little rectified spirit is commonly added with a few bruised cloves, and the whole digested together with occasional agitation for a week or fortnight, when the clear portion is decanted, and if necessary filtered. The dye will stain the scalp or any other textile substance it may come in contact with. To apply it, the liquid applied same as any hair wash. An ordinary washing of the hair with the liquid ought to suffice, but in some instances several repetitions are necessary. As to the frequency of the application, this can only be determined by watching the results.
  - (13) A. E. C. asks how to make an enameled flesh color on raw hides, as used in making artificial limbs. A. We would advise to first coat the raw hide heavy coat of best wearing body varnish, and allow it
  - (14) F. H. asks the chemical composition of the bleaching powder used in paper mills, and the mode of manufacture for commercial uses. A. Bleaching powder is the result obtained by bringing chlorine gas in contact with slaked lime. In England it is largely obtained in connection with the soda ash prepared from salt or sodium chloride. Its chemical composition is variously given by the different chemists; it is generally considered to be a mixture of hypochlorite of lime and calcium chloride with water.
- (15) F. E. W. asks how a good black aniface of the article with a piece of chamois skin or line glycerine ink can be made to be used for rubber stamps? Or in other words, how can he color glycerine black? A. A very good black stamping ink consists of 16 parts of boiled linseed oil varnish, 6 parts of the finest lamp black, and 2 to 5 parts of iron perchloride. This diluted with one-eighth the quantity of boiled oil varnish is used with stamps. Perhaps the following will be more in accordance with your request, nigro sine black 1 part, glyceriue 4 parts, and sufficient water to make the ink of proper consistency.
- (16) C. A. B. writes: I have been trying for some time to get a steam radiator bronzing that will not tarnish or burn off after it has been on a week, as most of the articles used now do. What is the best manufacture of solder can be done cheaper by large | liquid to mixthe bronze with to produce that result? A. Use a dry bronze powder, and then cover with a coat of transparent colorless varnish. This will be
  - (17) E. L. F. asks how enamel is applied on metal, such as used on jewelry, and whether different colors require different treatment? A. Enamels are a species of vitreous varnish, colored by means of metallic oxides and applied in thin stratum to brightly polished metallic surfaces, on which it is fused by the flame of a blowpipe or by the heat of a small furnace. (18) X. Y. Z. asks if coal oil attracts light-
  - ning. A. No.
- (19) W. A.: A "saturated solution," fermentation but not on that of yeast, and the accondin hold. Another good and very old plan for preserving eggs is as follows: To each pail of water add two pints of fresh slaked lime and one pint of common salt; mix well, fill your barrel half full with this fluid, but your eggs down in it any time after June, and they will keep for many months.
- (20) J. O. N. of Newark, N. J., says: Inclosed please find specimen of insect found on potato vines Can you tell me what they are? Also what will kill or banish them? I find them worse than potato bugs, for Paris green will soon rid me of them; but these things I can find nothing to kill, except I also kill the vine. I have tried Paris green, whale oil soap, tobacco juice, and kerosene oil; all failed except kerosene, which killed or banished the insect, but also killed the vine. A. The insect referred to arrived in a very dilapidated condition, but the remains seemed to indicate that it was the common Anasa tristis, com-Can. See Coffee can. furnace.
  Canoe, hammock, E. H. Brown. 299,951 Furnace, L. P. French 299,974 monly found on squashes and cucumbers, but occasion-(10) I. R. P. asks how to bleach beeswax in the use of revolving cylinders?

  A. The mony found on squaenes and cucumbers, out occasion - Canoe, namnock, E. R. Brown - Canoe, namnock, E.

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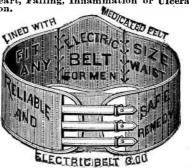
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	cal poisons will have no effect upon it. Our correspondent has hit upon the right remedy (kerosene), which	Car brake, automatic, Poor & Schiller	
se n	may easily be rendered innocuous to the plant by forming an emulsion with milk or soap and then diluting	et al. Car coupling, H. T. Beam.	300,299
e- if	with water. The subject of kerosene emulsions has already been treated at length in our columns by Pro-	Car coupling, F. S. Dimon Car coupling, T. Geritt Car coupling, H. H. Hewitt	300,245
it	fessor Riley, and it will be unnecessary to repeat the formulæ.	Car coupling, W. Parsons	300 004 300,148
d is h	(21) H. G. asks how to make good tallow candles. A. We presume that the inquiry has refe-	Car coupling, H. M. Sturgis	300,292
e	ence to candles made with moulds rather than the dip variety. The ingredients are about one-third beef and	Car door lock, S. C. Norton	300,325
y	two-thirds mutton suct. We would recommend the use of 1 pound of alum with each 5 pounds of tallow.		300,259
e	Dissolve the alum in water, then put in the tallow, and sir until both are melted together, then run in moulds.	Car wheel, G. P. King	300,321
e -	This part of the operation is conducted as follows: The wicks are secured in the center of each mould by pass-	Carding engine, wool, C. Rüdiger	
n	ing over the sticks, one of which is laid over the top of the mould (corresponding to the bottom of the candle),	Carpet fastener. W. M. Shopbell	300.237
n g	and the other against the bottom points of the moulds. The end of the twisted wick is fastened to the stick on	rier. Cart, road, 1. Dolsen	
	the top of the mould, and is drawn by a piece of hooked wire through each mould in succession, leaving a		300. 279
)	loop outside the bottom points of the mould, the loops are secured there by the bottom stick passing	Cash railway switch, J. C. Coram  Castings, machine for making cores for, J. G.  Morrison	
1	through them; the wicks are to be drawn tight, and the last end tied to the upper stick. The melted tallow	Cauterizing apparatus electrical, E. T. Starr Chain bar, pencil, and toothpick, combined, D. F.	300,155
r	is then poured into the moulds and allowed to stand about 6 hours in a cool place, after which the bottom	Briggs Chain, ornamental. F. Fontneau	<b>3</b> 00 <b>,</b> 300
:- 1	stick must be taken out of the loops and the candles withdrawn from the moulds. The tallow should not be	Chains, locked fastening for watch, H. T. Salisbury	
gʻi -j	heated much more than is necessary to melt it.	Chair. See Convertible chair. Chair seat machine, W. F. Lamson	
r	MINERALS, ETC.—Specimens have been re- ceived from the following correspondents, and		300,079
r	examined, with the results stated:  J. G.—The specimen is selenite, a variety of gypsum	Chuck, C. Lewis	300,272 309,032
3	or calcium sulphate. Its principal uses are for agricultural purposes, and also as plaster of Paris in internal	Cigar wrappers, machine for cutting, H. Grunhagen	300,069
r	house decorations. Its price ranges from \$12.50 per ton up to \$3.50 per barrel in San Francisco.	Circuit closer, multiple, W. F. M. McCarty Clamp. See Sail clamp. Clasp. See Album clasp. Necktie and collar	
e 1		clasp. See Album clasp. Necktie and conar clasp. Clasp, I. V. Ford	
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e	States were Granted	Coke oven door, Herron & Wray	
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