frog ponds. Consequently such waters are especially adapted to carp.

Whenever the water becomes chilled down to perhaps 40°, and especially when frozen over at the top, the fish bury themselves in the mud, aggregating in lots of from fifty to one hundred, frequently with their tails projecting, and constituting what is called in Germany, kettles or roses. It is very important that they should not be disturbed under such circumstances. Of course, while hibernating in this way they are not feeding, although they are said not to lose appreciably in weight. In the more southern regions, where the waters do not freeze, they will probably feed throughout the year, and make a more rapid growth

So far, Prof. Baird says, no waters have proved too warm for carp; indeed, they are said to thrive especially well in reservoirs receiving the condensed waters of low-pressure steam engines, in Germany, of over 100° temperature.

As regards the best plants for a carp pond, Prof. Baird mentions the ordinary pond weeds (*Pontederia* and *Sagittaria*), splatter dock, or pond lily, and, indeed, any of the kinds that grow in the water, with leaves floating upon the surface, duckweed among the number. Those which produce seed, like the wild rice, are especially desirable, as the fish feed voraciously upon them.

The great merit of the carp for cultivation, next to its excellent table quality, lies in its adaptation to shallow and warm ponds unsuited for ordinary fish. The country is full of such waters, now useless, which might be made exceedingly productive; and there are thousands of swamps in every State, which might easily be flooded and stocked at small cost in money or trouble. In Germany many villages maintain at common cost for the public benefit carp ponds of a hundred acres or more.

RECENT DECISIONS RELATING TO PATENTS.

U. S. Circuit Court—Southern District of New York.

MANUFACTURE OF CELLULOID.—DANIEL SPILL *vs.* THE CELLULOID MANUFACTURING COMPANY.

(*Decided May* 25, 1880.)

Blatchford, J.: This suit, on the proofs, involves two patents granted to the plaintiff. One is No. 97,454, granted November 30, 1869, for an "improvement in dissolving xyloidine for use in the arts." The specification states that the "invention relates to the preparation and use of certain solvents of xyloidine, and which differ from the ordinary known solvents of xyloidine, in that these menstrua which are employed are not, necessarily, in themselves, solvents of xyloidine, but become so by the addition of the bodies, compounds, or substances herein referred to." It also states that the invention consists in the employment of eight different solvents. Only the second solvent is alleged to have been used by the defendant. It is thus described in the specification: "Camphor or camphor oil, or mixture of the same, in conjunction with alcohol or spirits of wine, the same to be employed in about equal proportions." The claim is in these words:

"The preparation and use of solvents of xyloidine, such as have been before described, so as to render xyloidine more easy of conversion into compounds containing xyloidine, which are suitable for application in the arts and for industrial purposes."

The defendant has infringed this claim by using camphor in conjunction with alcohol, as a solvent of xyloidine. The defendant mixes ground and dried xyloidine with pulverized dry camphor, and then immerses the mixture in alcohol until the xyloidine is dissolved. It is dissolved by the joint action of the camphor and the alcohol. Neither alone is a solvent of xyloidine. It is immaterial, so far as the invention and the claim of the patent are concerned, whether the camphor and the alcohol are mixed so as to dissolve the camphor in the alcohol and then the xyloidine is put into the solution, or whether either the alcohol or the camphor is first mixed with the xyloidine and then the third substance is added. The bringing of the three together, causing the xyloidine to be dissolved or softened, so as to be more easy of conversion or working into compounds or articles containing xyloidine, is the invention. Making use of the solvent power of camphor and alcohol, when in the presence of each other and of the xyloidine, is the essence of the invention. The use of the camphor and the alcohol in about equal proportions is not of the essence of the invention. They are stated by the patentee to be useful in these proportions. But the evidence shows that the real invention was the discovery of the fact that camphor and alcohol, when united, would be a solvent of xyloidine.

The novelty of the invention of this solvent is attacked, but without success. The evidence is voluminous, and has been carefully considered, with the result, that the defendant has failed to show want of novelty. The prior patents adduced and examined are the English patent to Cutting, No. 1,638, of 1854; and the English patents to Parkes, No. 2,359, of 1855; No. 2,675, of 1864; No. 1,313, of 1865; No. 1,695, of 1867; and No. 1,614, of 1868. Parkes' pamphlet of 1867, and Gmelin's Handbook of Chemistry, of 1860, have also been considered, as well as the English patent to the plaintiff, No. 2,666, of 1867. No other anticipation than the above seems to be considered by the defendants' expert, and he does not allude to the pamphlet. Another defense relied on is, that one Parkes communicated to the plaintiff, in England, the knowledge that alcohol and camphor united were a solvent of xyloidine, and that the plaintiff never made the invention himself. On the whole evidence, the defendant has failed to establish this defense.

The other patent involved is No. 101,175, granted to the plaintiff March 22, 1870, for an "improvement in the manufacture of xyloidine and its compounds." There are five claims in the patent. The second alone is alleged to have been infringed. The specification says: "The second part of my invention relates to the bleaching of xyloidine, and is as follows: When it is desired to bleach or whiten the xyloidine, I bleach it directly after the removal of the acids, and before removing it from the vat. This I do by any of the well known means, preferring a solution of chlorine or a solution of chloride of lime or soda, which I add to the xyloidine, making use of alternate stirrings and rests, for a sufficient time, until the xyloidine is whitened. The solution is again drained off, and the xyloidine is repeatedly washed with water, in order to remove any excess of bleaching agents or any residue from such agents, when it will be found to be ready to be submitted to pressure in order to free the same from water, and may then be opened out, so as to prepare it for drying, dissolving, or other purposes." The second claim is in these words: "The process of bleaching xyloidine in the manner herein specified." That portion of the specification which precedes the statement of the second part of the invention relates to the treatment of vegetable fiber or lignine with acids, to convert it into xyloidine and render it soluble in suitable solvents. The fiber is intimately mixed with the acids by appropriate means, then the acids are strained and pressed from the fiber, which is now xyloidine, and it is subjected to a washing and stirring with water until it is nearly or quite free from acids, and the water is then drained off. The washing is done in a washing vat. The bleaching, as before stated, is done "directly after the removal of the acids," and before the xyloidine is removed from the vat. The evidence shows that the real invention of the plaintiff in this regard was to bleach xyloidine by ordinary bleaching agents, directly after the converting acids had been washed out of it, and before anything had been mixed with it which might interfere with the action of the bleaching agents. This is, fairly, the sense of the specification. Whether the bleaching is done in the washing vat or not, or in a solution of the ordinary bleaching agent, or by such agent not in a solution, are immaterial matters. The essential discovery was, that an ordinary and well known bleaching agent, of the character of chlorine, or chloride of lime, or chloride of soda, if applied to xyloidine, when it had become such and had been freed from the converting acids, and while it remained in that state, would act upon it to bleach it. The defendant treats paper with acids to make xyloidine, then washes out the acids, then grinds it, and, while it is being ground, applies bleaching powders to it. The evidence is satisfactory, that one of such bleaching powders is permanganate of potash, and that it was a well known and ordinary bleaching agent at the time of the plaintiff's invention. Therefore, infringement is established.

It is contended for the defendant that the claim in regard to bleaching does not claim a patentable invention, because it is merely the use, to bleach xyloidine, of what had been before used to bleach fibrous material not converted into xyloidine. The true view is well expressed by Professor Seeley, the plaintiff's expert. The defendants' expert, Mr. Edward S. Renwick, had cited four English patents, those to Martin, No. 7, of 1864; to Reeves, No. 2,797, of 1860; to Collyer, No. 550, of 1859; and to Reeves, No. 3,293, of 1866, as describing the treatment of vegetable fiber with a solution of chloride of lime or of soda, substantially as the plaintiff's patent describes xyloidine as being treated with a solution of chloride of lime or of soda. Professor Seeley says:

"The patents referred to by Mr. Renwick cover inventions relating to bleaching, by means of ordinary bleaching agencies, the ordinary fibrous substances which are used for clothing, paper stock, etc. I do not find in them anything which has more bearing upon the novelty of Spill's invention than what might be included in the matter which Spill regards and defines as old and well known. Previous to Spill's time, the ordinary bleaching materials and methods were only applied to a peculiar class of substances, namely, those substances of fibrous character which were useful only by reason of that fibrous character. Spill's invention brings the utility of bleaching upon a new kind of material, and brings it where it was very desirable, but where it was supposed to be impracticable. It is true that pyroxyline (xyloidine) has a fibrous structure, but this fibrous structure is not any essential or useful property in it. In fact, in this art, pyroxyline does not become useful until the fibrous structure is destroyed. Pyroxyline is not useful for any of the purposes to which the materials formerly bleached were applied. Pyroxyline is very different, in chemical character and composition, from the old bleachable materials. If pyroxyline had not the fibrous structure, probably the question of invention in this case would not have arisen, for then it would have appeared plainly that the case would have been very similar to that of (suppose) bleaching charcoal by ordinary bleaching agents. In the absence of experiments, the bleaching of a substance like pyroxyline would seem impracticable, almost incredible. The theory of ordinary bleaching is, that the coloring matter of goods to be bleached is of a complicated and unstable character, and is destroyed by the powerful chemical action of the bleaching agents, chlorine, oxygen, etc. Inasmuch as pyroxyline, in its manufacture, has been exposed to the action of some of the most powerful chemical agents which are known, it is unreasonable to suppose that any of the unstable coloring matter could be left in it. The bleaching of pyroxyline has often been proposed and attempted; it was especially desirable in this art; but it is my opinion that a chemist would exhaust all other theories before he would think of ordinary bleaching agents for the purpose. The subject had come up in my mind several times before Spill's invention, and I was unwilling to credit the efficacy of his plans until they were actually demonstrated to me. I know of very few inventions where so novel and useful results have been obtained by such simple and unlooked-for methods." There is no evidence to countervail this view.

The defendant has introduced evidence for the purpose of establishing that the invention claimed by the plaintiff in regard to bleaching xyloidine was previously known to Parkes, and was communicated by him to the plaintiff, and was not in fact invented by the plaintiff. The burden of showing this is on the defendant, and, on the whole evidence, it has not succeeded in doing so.

The defendant claims to have shown that other inventions claimed in the two patents were not new, so as to affect the question of costs. But the attempt cannot be held to have been successful.

There must be the usual decree for the plaintiff, for an account and an injunction, as to the claims above held to have been infringed, with costs.

Horace M. Ruggles and Edwin M. Felt for the plaintiff.

William D Shipman, Henry Baldwin, Jr., and E. Luther Hamilton, for the defendant.

The Brooklyn Bridge.

On being re-elected President of the Board of Trustees of the Brooklyn Bridge, lately, Mr. Henry C. Murphy promised that the bridge would be ready to open for use by the Fourth of July, 1881. A large body of men are at work upon the approaches to the bridge on both sides of the river. It is thought that a couple of months will suffice to complete the stone and brickwork on this side, after the purchase of certain properties has been made. The Brooklyn approach is shorter and much nearer completion.

The machinery for putting up the superstructure of the bridge is ready in the towers; but the work has been delayed owing to the necessity of constructing special machinery to cut the steel for the chords of the bridge. The largest size of steel hitherto made at the Cambria Iron Works, the most extensive in the country, measured 7 inches by 7 inches The bars for the bridge are 7 inches by 8½ inches, and to cut them enormous shears had to be made and put in position This caused a great delay in the preparation of the first 500 tons of steel. The second lot of 500 tons, it is expected, will be delivered in advance of the time specified in the contract.

New Mode for Photo-Gelatine Plates.

Prof. Geo. Herschell makes the following suggestions in a note to the *British Journal of Photography:*

I found that by adding one drachm of a dilute mineral acid (I used nitro-hydrochloric dil. B. P.) to six ounces of rectified spirit, almost any quantity of gelatine would dissolve in it on the application of a gentle heat. Plates coated with this dried in about double the time collodion takes.

Having got so far, I took some of Kennett's pellicle, and dissolved as much as I could in one ounce of spirit with ten minims of the acid. I got a nice emulsion, which flows over the plate quite as easily as collodion does. The plates are quite hard and dry in ten minutes. The emulsion must be kept warm while coating.

I hope that some of the leading gelatine workers will take these facts up and put them on a good basis, as my time for experiments is very limited. I find that ether and chloroform act as well as rectified spirit as solvents of gelatine when an acid is added. I have not had time to expose my plates yet.

The Survey of the Gulf Stream.

The sundry civil appropriation bill, just passed by the House of Representatives, provides for a survey of the Gulf Stream from its origin to its final whirl around the Sargasso Sea. The plan embraces soundings, deep sea temperatures, and current observations. The high importance of the proposed survey is clear, and when done it will add another valuable chapter to the nation's record of scientific exploration. The practical value of the proposed work, in its bearing no commerce and meteorology, is beyond estimation.

THE WONDERFUL CLOCK.—The astronomical clock invented and constructed by Felix Meier, which was illustrated and described in these columns some time ago, has been brought to this city for exhibition. In workmanship it excels the celebrated Strasburg clock, and it is a masterpiece of mechanical skill. The clock will remain on exhibition at Tammany Hall for some time, and it will repay any one interested in mechanical novelties to devote an hour in watching the movements of the figures and orbits in this wonderous clock.

Last of the Stevens Battery.

The Chancellor of New Jersey has ordered a sale of the Stevens Battery to be made by Washington R. Williams, Esq., Master, whom he directs either to make sale of the battery and its appurtenances as an entirety, or sell its materials, consisting of engines, etc., separately, whichever will yield the most money. Thus the great battery, which cost the projector so much money, and was intended to be the pride of our navy and a terror to other nations, is to be sold for old iron.

NEW BOOKS AND PUBLICATIONS.

MINES AND MINING IN JAPAN. By C. Netto, M.E. Professor of Mining and Metallurgy, University of Tokio, Japan.

To Professor H. Kato, President of the Department of Law, Science, and Literature, in the University of Tokio, are we indebted for a copy of an English translation of a report on the mining industries of Japan. This Report contains a description of the modes employed in opening, ventilating, illuminating, draining, and equipping mines, and also the processes used in smelting, roasting, washing, and assaying of gold ores. It also contains the laws which govern the mining industries of Japan, and a statement of the approximate products of both the government and private mines of the country. Another interesting feature in this Report is a number of very well executed engravings representing the implements used by the miners, many of which, are not unlike those used by our own miners.

Notes & Queries

HINTS TO CORRESPONDENTS.

No attention will be paid to communications unless accompanied with the full name and address of the writer.

Names and addresses of correspondents will not be given to inquirers.

We renew our request that correspondents, in referring to former answers or articles, will be kind enough to name the date of the paper and the page, or the number of the question.

Correspondents whose inquiries do not appear after a reasonable time should repeat them. If not then published, they may conclude that, for good reasons, the Editor declines them.

Persons desiring special information which is purely of a personal character, and not of general interest, should remit from $1 to $5, according to the subject, as we cannot be expected to spend time and labor to obtain such information without remuneration.

Any numbers of the SCIENTIFIC AMERICAN SUPPLEMENT referred to in these columns may be had at this office. Price 10 cents each.

(1) J. M. M. G. writes: In your number of April 24, you ask for a mode of killing moles. Pills made of lard, flour, and a very little strychnine dropped into their holes will kill them. Corn or ground peas soaked in a strong decoction of strychnine will kill them. Perforate their holes with a small probe and drop in the poison. [Should any of our readers try the above, they should bear in mind that strychnine is one of the active poisons and should be used with great caution.]

(2) H. K. M. asks: 1. Please inform me of some good book on steam engines and the price. A. Forney's "Catechism of the Locomotive," Edwards' "Catechism of the Marine Steam Engine," Roper's "Horse Power of Land and Marine Engines." 2. Can you tell me of any preparation by which I can take grease off pigeons? They get in the garbage and get grease all over the breast, and the grease gets in the pores of the eggs, and they will not hatch. A. Try benzole 3 What is the best polish for walnut wood? A. Thin alcoholic shellac applied with a drop of oil on the polishing cushion. 4. What is the difference between a moment of force and a moment of time? A. See definition of moment in Webster.

(3) G. D. asks if there is any process by which bone can be softened so as to be cut in any size or shaped piece wanted, and afterwards the piece so cut hardened back to its original hardness. A. Bone may be softened by boiling it in muriatic acid diluted with two parts of water, hardened by digesting in limewater.

(4) S. E. asks What chemical can be put on black walnut to prevent the fire from burning it? A. Wood may be rendered to some extent non-inflammable by saturating the fibers as far as may be with a hot saturated aqueous solution of commercial tungstate of soda, and then drying slowly.

(5) W. W. asks. Can you tell me of anything that I can use in parlor match composition to prevent the crack? I have been using 4 oz glue; 4 oz. whiting; 2 oz. crocus; 12 oz. potassum; 1 oz. phosphorus. A. Coat the heads by dipping with a common shellac varnish: shellac (common), 1 lb.; wood alcohol, 1 quart. Swift & Courtney's match is said to have the following composition

Phosphorus	30
Gum	5
Water	30
Sand	20
Binoxide of lead	20
	105

(6) R. E. A. asks how to make a mucilage in stick form (solidified), also would like to know of best plan for making a thick ink suitable for "Stoakes' Automatic Pen." A. Dissolve gum arabic in hot water to form a sirupy liquid, add a little clove oil, and thicken with powdered gum dextrine; mould and dry slowly. Concentrate a good iron gall indigo ink by evaporation over a gentle heat. Or dissolve soluble nigrosine in hot water to form an ink of the requisite consistence.

(7) R. H. S. writes: Putting common salt on a hard coal fire that is almost out seems or does revive it. Will you please give me the chemical action that takes place. A. Salt does not materially aid combustion. If the fire is hot enough the salt is volatilized; if small, the salt is more likely to extinguish it, we think.

(8) F. H. C. asks (1) how to remove rust from brass screws and trimmings, or mountings on a camera that has been exposed for a long time to dampness. A. Probably the best way to clean your brass work is to repolish with emery paper of different grades, finishing with crocus cloth. 2. How to ebonize cherry or pine wood, with details of the logwood preparation. A. For directions for ebonizing wood, see p. 91 (18), Vol. 40, SCIENTIFIC AMERICAN.

(9) W. P. asks for the most practical method, if there is any, of destroying the canker worm after it has gained a foot hold in the tree. A. Try syringing the tree with soap suds to which has been added a little hellebore

(10) R. G. asks for the best method of putting new counters in seal presses (notary, etc.) A. They are usually cast in type metal in the same way that stereotypes are cast, but an easier way is to take a piece of guttapercha, soften it in warm water, put it in the press, and bring the seal down on it. A counter of this kind does not last as long as metal, but it may be very readily renewed.

(11) E. L. K. writes 1. I am making a boiler like the one described, in SUPPLEMENT 182. The tubes are three inches in diameter and 18 inches long. Will it do to make the casing, which is 16 inches in diameter, of cast iron? A. If you refer to the boiler on page 2891, you can make the casing of cast iron, but it should be lined with fire brick or some other non-conductor. 2. How large an engine will the boiler run? 2. It will depend upon the speed of the engine and the pressure you wish to carry. 3. How much pressure will it safely stand? A. If the tubes are properly proportioned and sound, 120 to 140 lb.

(12) H. writes: I desire to make a small ice box, one in which I can preserve for twenty-four hours a few pounds of ice. What is the best material to pack such a box with, and how thick should the packing be? A. A box with a 2½ inch air space between the walls all around answers very well, providing the air space be perfectly tight. Saw dust, when dry, makes a good filling. Powdered charcoal is frequently used.

(13) J. T. H. asks: Has any one ever used a line of shafting laid at an incline in place of horizontal? Will such a shaft inclined, say one foot in ten, 2½ diameter, 100 feet long, work? A. A shaft inclined one foot in ten will work, but all connections with it must be made to conform to the angle.

(14) W. H. P asks for a rule for calculatting the pressure of steam on a cylinder boiler at any given number pounds of steam. A. Multiply the diameter in inches by the length in inches and by the pressure per square inch; the result is the total pressure tending to rupture the boiler

(15) R. F. R. writes I made a copying pad after the receipt given in the SCIENTIFIC AMERICAN, but I notice the copies have a faint color; I think they should be darker. Can you tell me what to put in with the ink to produce a clear impression? A. In preparing the ink use pure methylaniline violet (3 B shade) or blue, and see that the solution is complete before attempting to use it. If the directions are properly carried out there will no difficulty. If the ink does not flow readily add a little more alcohol.

(16) G. W. R. asks: 1. How can I find the pressure of wind per square foot at different velocities? A. Use a wind pressure gauge or anemometer. 2. Why is the common galvanometer not used in receiving dispatches on the Atlantic cable instead of the looking glass attachment which requires a darkened room? A. Because the pencil of light from the reflector forms a very long index having no weight. 3. What would be the cost of one of Edison's lamps and generators ready for motive power? A. We believe they are not in the market yet. 4. How high will a pressure of fifty pounds per square inch raise water? A. 112 feet. 5. How much is air compressed at a pressure of fifty pounds per square inch? A. 4·38 times or volumes. 6. Is a rotary bellows the best machine for compressing air to the above pressure? A. No. 7. Is a rotary engine best for applying its power to machinery? A. No. 8. Is compressed air the best agent for keeping a power which is supplied (irregularly) for future use (once in 24 hours)? A. You may use compressed air, but a column or head of water is to be preferred.

(17) F. W. & Co. ask: What can be used to remove the gloss on tin cake cans so as to make the labels stick well which are put on with flour paste? A. Try strong hot solution of caustic potash or soda.

(18) J. T. asks what to put into glue to make it perfectly insoluble. A. Glue is rendered insoluble by tannic acid (tannin). The tannin may be dissolved in a small quantity of soft water.

(19) A. P. G. asks: What will remove soil spots, such as grease and dirt, from parchment paper, such as diplomas are written upon? A. To remove the grease spots cover with hot pipe clay and place under pressure for a few hours. Dirt stains must be removed by mechanical means.

(20) W. H. asks: Is there a single engine made to reverse with one eccentric, without changing the position of the eccentric on the shaft? A. Yes, by making the valve without lap or lead.

(21) J. J. W. asks how Leghorn hats are whitened (otherwise than with the fumes of sulphur), or can you give a receipt to whiten with a varnish? A. Immerse in a strong aqueous solution of sulphite of soda or bleaching powder (chloride of lime), and then in dilute sulphuric acid (acid 1, water 5). The bleaching powder treatment requires much subsequent washing, or the use of an antichlore dip, hyposulphite of soda dissolved in 20 parts of water.

(22) A. B. H. asks for some simple test for water to see whether it is safe to use or not. I took some tannic acid and put it in well water. No. 1 turned greenish blue; No. 2 acquired a reddish tinge; No. 3 bluish green with quite a deposit on the bottom of the tumbler and quite a bit of substance floating around in it. The surface of all these waters had a glassy look. The water was hard. No. 4 was water taken out of a cistern; the acid did not change this water. Please tell me what the above tests—if they can be called tests—indicate? A. Pure tannic acid (tannin) causes a bluish or greenish blue discoloration or precipitate in water containing salts of iron—with which it forms ink. When the water contains any considerable quantity of gelatine or albuminous matters, tannin occasions the formation of a finely divided precipitate, at once or after standing for a time. When the quantity is small this gives the water an opalescent appearance, and sometimes a slightly pinkish tint when viewed by transmitted light. After remaining in a warm, quiet place for some hours, the precipitate separates as a curdy or semi-gelatinous mass. Such water may be considered unfit to drink. Before using the tannin solution should be allowed to stand for some hours and should then be filtered

(23) R. F. asks how to clean rubber stamps. A. Try a little strong hydrochloric acid.

(24) S. L. writes: I propose building a double boat, 50 feet long, ⅛ inch iron, air tight; each boat 30 inches in diameter, joined by staunchions making an outside beam of 12 feet. 1. What would be the carrying capacity? A. We cannot give the carrrying capacity without knowing the form of your cylinders. 2. Would it carry engine power sufficient to propel at rate of seventeen miles per hour, and the power required? A. No, not with paddle wheels. 3. What diameter of side wheels, with feathering floats, would be required, and the number of buckets to each wheel? A. You cannot put in wheels of any size that will give the speed. 4. What would be the best coating inside and out to keep the iron from rusting on a fresh water lake? A. Brown oxide paint ground in pure linseed oil. There is a catamaran steamboat building here, which will be completed within the next sixty days. We advise you to wait the result, before investing your money in a similar project, if speed is your object.

(25) O. & D. write: Owing to the mildness of last winter the ice crop was scarce and the price is high. Is there not some simple way by which one can at little expense reduce the temperature of our city water, so as to render it a little more drinkable? I thought of using a jar and covering it with a layer or two of some coarse cloth, and keeping a small stream of water running on it, just enough to keep it wet. Would the evaporation reduce the temperature materially, and what part of the house would it be best to keep it? Perhaps there is some better method, if so, I am sure you would confer a great favor on many who cannot afford to take ice this summer. A. The simplest form of water cooler is perhaps the porous (unglazed) earthen jar. When filled with water the latter oozes slowly through the porous material, evaporates, and keeps the jar cool. The jar must, however, be kept away from heat radiating surfaces. The plan you suggest is also a good one; the cloth should not be too thick, and the jar should be as tall and narrow as convenient so as to expose as large an evaporating surface as possible.

(26) A. B. asks for a receipt to make ice cream. A. The following gives excellent results: Scald a gallon of good sweet milk, and add to it with constant stirring eight eggs well beaten with one pound white sugar, and four spoonfuls of cornstarch, first mixed into a thick cream with cold milk. Cool, flavor to suit and freeze.