RECENTLY PATENTED INVENTIONS.

Engineering.

FURNACE AND PROCESS FOR TREATING ZINC ORES.—William West, Denver, Col. Two patents have been granted this inventor for means designed to facilitate the saving of all the metal in minerals composed of zinc and lead sulphides carrying gold and silver, for which purpose the roasting furnace is provided with a drying floor, in combination with leaching tanks and a blower, whereby the gases may be drawn from the drying floor and forced beneath a false bottom of the leaching tanks, and the zinc will be separated and recovered from the other metals as a sulphite, this being effected in a single economical operation, and the other metals left in good condition for further treatment.

STRENGTHENING DIKES. — Albert Q. Withers, Victoria, Miss. This invention covers an apparatus to facilitate forming a vertical channel in a levee or dike, filling the channel with a suitable grout, such as cement mortar, to form in the dike a vertical plate or wall of solid cement, the invention covering a novel combination of parts designed to afford a most efficient construction.

BOILER FURNACE. — Samuel Porter, Denver, Col. The grate of this furnace is mounted to turn, and the fire box and ashpit are transversely divided, while a water drum passes transversely through the fire box, with other novel features, designed to form a simple and durable construction, to insure complete combustion, and consume all smoke and gas.

Railway Appliances.

CAR BRAKE. — John Kinney, Philipsburg, Montana. By this invention a rod is mounted to slide on the end of the car and connected by a chain or rope with the brake mechanism, a lever or levers pivotally connected with the rod being fulcrumed on the car, to enable the operator to quickly set or throw off the brakes from either the side or the top of the car, the device being specially designed for box and flat cars.

FARE COLLECTOR. — Moses D. Greengard and Fradelshon Harris, St. Louis, Mo. This invention covers a casing with interior mechanism, to be carried by a conductor of a street car and presented to each passenger for the deposit of the fare, the construction being designed to prevent the extraction of money therefrom, or in any way tampering with it, without detection.

INTERLOCKING BOLT. — Thomas J. Bush, Lexington, Ky. The formation of this bolt is such that when its flattened surfaces come in contact with each other, all tendency of the bolts to turn is obviated, and adjustable sloping washers are provided for use therewith, to permit of a rail thus fastened to be adjusted to the proper gauge, while by slackening the nuts the rail may be removed and replaced.

BOLT MAKING DIE. — Thomas J. Bush, Lexington, Ky. This invention relates to a machine for making interlocking bolts patented by the same inventor, the bolt being faced off and recessed to form a locking shoulder, which is effected by compression without removing the metal, whereby its strength is not materially weakened.

Mechanical.

PIPE OR ROD CUTTER. — William Vanderman, Willimantic, Conn. This device has a body frame to which is attached a chain adapted to surround the article to be cut, rotary cutters being mounted in the links of the chain and an adjusting device connected with the frame, making a readily adjustable device adapted to cut pipes or rods of various sizes.

ARTESIAN WELL BORER.—Thomas H. Logan, U. S. Army (El Paso, Texas). Combined with a tube in which reciprocates a shank to operate an auger are dogs adapted to engage the well casing and hold the tube from rotary movement, with other novel features, forming a simple and durable auger, actuated by the weight of the connecting rods, to sink wells in rock, gravel, etc., without the use of water.

BRUSH TO CLEAN METAL CASTINGS.—Louis P. Mahler, New York City. This is a rotary brush with metal bristles arranged in bunches and having flexible connection with the brush core, whereby they will yield sufficiently to prevent their being easily broken, and will yet stand the strain of severe service.

PAPER MAKING MACHINE. — Heinrich Hoeborn, Hemer, Germany. In this machine the paper, in its passage from the couch rolls to the press rolls, is made to pass between two felts, and is guided in a broken line forming an obtuse angle to the press rolls, the same machine being designed to make paper of all kinds of materials, and of any desired thickness, from cardboard to tissue paper.

Agricultural.

CULTIVATOR. — Nathaniel F. Bloominger, Rochester, Ill. This cultivator is made with an improved shank, whereby, when the blade meets an obstruction, the blade will yield and be automatically carried rearward, being returned to its normal position when the obstruction is passed, thus guarding the share and the parts connected with it from liability to breakage.

POTATO DIGGER.—Augustus Leonard, Newell's Run, Ohio. This is an attachment designed to be quickly secured to the curved beams of an ordinary shovel plow, a digging shovel being bolted upon a short standard, the blade being of spade form and having its upper edge bifurcated, to disintegrate the soil and expose the potatoes, the device being very simple and inexpensive.

Miscellaneous.

CHAIR. — Henry U. Pohl, Saginaw, Mich. This invention covers an improvement in rocking chairs, providing means whereby the back may be readily set at different inclinations, and the chair so adjusted that the occupant can assume a comfortable reclining position.

HEAD REST FOR CHAIRS. — Isaiah D. Crispell, West Stockbridge, Mass. A block secured to the back of the chair has a rack on which is pivoted the head rest, while a handle lever is adapted to engage the rack and hold the head rest in adjusted position, the construction being specially adapted for use in connection with dentists' or barbers' chairs.

FIREPLACE HEATER. — Nathaniel A. Boynton, New York City. Combined with the body of the heater, its base and frame, is a novel arrangement of flues or passages for the escape of the products of combustion, including flues down either side of the body in front, whereby the heat is more thoroughly utilized within the apartment in which the heater is situated.

DENTAL MALLET AND RE-ENFORCING ATTACHMENT.—Dr. J. L. Mewborn, Memphis, Tenn.—Two patents have been issued to this inventor for a device he styles the "Mulley mallet," with which the old hand pluggers, burnishers, and chisels are used, no points or bits being required, but adapted to deliver 2,000 blows per minute on the hand plugger to condense the gold, or on the chisels, trimmers, and burnishers in the other work. The re-enforcing attachment takes the place of the bit in other mechanical pluggers, converting them into re-enforcing mallets, so that those who already have the electric or other pluggers may use this attachment with advantage, it being a cup-shaped tool to be inserted in the plugger to receive the end of an ordinary hand tool.

NOTE.—Copies of any of the above patents will be furnished by Munn & Co., for 25 cents each. Please send name of the patentee, title of invention, and date of this paper.

Business and Personal.

The charge for Insertion under this head is One Dollar a line for each insertion; about eight words to a line. Advertisements must be received at publication office as early as Thursday morning to appear in next issue.

Notes & Queries

HINTS TO CORRESPONDENTS.

Names and Address must accompany all letters, or no attention will be paid thereto. This is for our information and not for publication.
References to former articles or answers should give date of paper and page or number of question.
Inquiries not answered in reasonable time should be repeated; correspondents will bear in mind that some answers require not a little research, and, though we endeavor to reply to all either by letter or in this department, each must take his turn.
Special Written Information on matters of personal rather than general interest cannot be expected without remuneration.
Scientific American Supplements referred to may be had at the office. Price 10 cents each.
Books referred to promptly supplied on receipt of price.
Minerals sent for examination should be distinctly marked or labeled.

(2793) J. L. F. asks: 1. Would you kindly tell me how to make a gelatine pad, such as is used in offices for copying 100 or more letters from one original? A. See SCIENTIFIC AMERICAN SUPPLEMENT, No. 438, and as below. 2. How to keep copying ink from running when used on wood, and exposed to the rain. A. It cannot be done while the ink retains its copying qualities. 3. The formula to make a transparent cement, used for pasting advertising labels on show windows. The cement is put on the engraved side, and water will not wash label from the glass. A. Attach with a solution of gum tragacanth and when dry varnish, or attach directly with dammar varnish.

(2794) R. V. H. asks: 1. Is there any simpler form of hektograph than that described in SCIENTIFIC AMERICAN SUPPLEMENT, No. 38? A. No; nothing could be much simpler. See also SCIENTIFIC AMERICAN, March 15, 1890, p. 166. 2. How is paste shoe blacking made? A. See answer to query No. 1704. 3. What is the composition of those so-called magical ink erasers? A. Possibly potassium binoxalate, or perhaps a mixture of tartaric and oxalic acids. 4. Is there any composition which if rubbed on softened stiff hats will restore the stiffness and brilliancy somewhat? A. Hats are stiffened by a solution of shellac in borax water. The solution can be made quite strong, but it never stiffens to the same extent that an alcoholic solution will.

(2795) E. E. asks: 1. Are sulphate of lime and oxide of iron harmless when taken internally, either separately or together, and what is the ordinary dose? A. They are harmless. Hydrated oxide of iron is administered as an antidote to arsenic poisoning. Sulphate of lime in large quanties might give rise to troublesome concretions. No dose can be prescribed. 2. Can you recommend a book upon the elements of chemistry, which can be had at a moderate price? A. We recommend Fownes' "Chemistry," $3.25, in cloth. We can supply others at lower prices.

(2796) How can the ravages of bookworms be stopped? A. It is said that the best method of putting a stop to the depredations of book worms is to take equal parts of powdered camphor and finely chopped tobacco, and then to sprinkle this mixture over the shelves. This operation should be repeated every six or eight months.

(2797) A. E. P. asks: What is the best thing to take out printer's ink from woolens and tweeds? A. It is almost impossible to effect. Benzine or chloroform may do it. Apply in a circle all around the spot, and gradually work in to the stain.

(2798) M. T. writes: I observed that gas would not burn on a cold day, in Omaha, Neb. Why was that, did the pipe freeze up, or was the pipe full of condensed moisture? A. The pipe was probably filled with ice condensed from the gas as water, and freezing in contact with the cold metal pipe.

(2799) G. M. P. says: Please inform me through the SCIENTIFIC AMERICAN whether or not you ever printed in the said paper any such notice as this: "That the government or any party offered twenty thousand dollars for a nut lock that would never become unscrewed," or words to that effect. A. We think no such statement was ever printed in SCIENTIFIC AMERICAN.

(2800) G. R. L. asks how to read an aneroid barometer. A. A very slight tap may be given before reading, to cause the index to reach its proper place. This is not always advocated, however. The figures may be for inches and decimals, or for millimeters.

(2801) F. J. G. asks: What chemical or compound is used by the so-called fire eaters to protect them from being burned? A. Dilute sulphuric acid, or a strong solution of alum.

(2802) J. E. F. asks what size wire the field magnet of Bishop's motor is wound with. A. No. 24.

(2803) A. A. H. asks how to amalgamate zincs. A. This is accomplished in several ways: 1. By dipping the zinc in dilute sulphuric acid and then dipping the end of it into a small quantity of mercury, afterward rubbing the surface with a brush. 2. Dissolve 1 pound of mercury in 5 pounds of nitro-muriatic acid (nitric acid 1 part, muriatic acid 3 parts), heat the solution gently to hasten the action. When a complete solution of the mercury is effected, add 5 pounds more of nitro-muriatic acid. The solution should be applied with a brush, as immersing the zinc in it is wasteful. 3. To the bichromate solution commonly used in batteries, add to every pint of solution 1 drachm of bisulphate of mercury or a similar amount of nitrate of mercury (mercury dissolved in nitric acid). By employing this method, the amalgamation of the zincs is maintained continuously after the first amalgamation, which must be accomplished by method 1 or 2. 4. In the Bunsen Grove, or Fuller battery the amalgamation may be accomplished by placing a small quantity of mercury in the cells containing the zincs. 5. Place a little mercury in a saucer with some dilute sulphuric acid. Dip the zincs into dilute acid. Then with a little strip of zinc or galvanized iron touch the mercury under the acid and rub it on the zinc. This will transfer a little to the surface, and a few minutes' rubbing will make the zincs as bright as silver. A very small globule of mercury is enough for a single plate.

(2804) J. F. B. asks: 1. Are the materials and processes in patent medicines patented, or only the name and trademark? A. The composition and the method of making may be patented. 2. How to find the safe working pressure of a boiler. A. Examine the boiler carefully for corroded places, go over it carefully with a hammer to ascertain if there are thin places, and finally subject the boiler to a test by hydrostatic pressure, which should be 50 per cent more than the working pressure. If no defects appear, the boiler may be safely worked to a pressure ⅔ that reached in the test. 3. Do the carbon plates for batteries need as much care in making and as long baking as the rods used in arc lights? A. The plates may be more porous than electric light carbon. They require the same baking. 4. Are the dynamos used for electric welding wound for high E. M. F., or heavy current strength? A. The dynamos for welding are generally made to deliver an alternating current of high E. M. F., which is reduced to a very low E. M. F. by the transformer. 5. What is the resistance of No. 26 copper wire? A. The resistance of 23·54 feet of No. 26 wire Am. W. G. is 1 ohm. One pound of the same wire has a resistance of 55·33 ohms.

(2805) A. L. asks what the ingredients are of stamping powder that is used by dressmakers in stamping embroidery designs on cloth. A. Powdered talc is good for marking cloth. For blue marks on white goods use ultramarine blue.

(2806) O. C. H. asks (1) how benzine or gasoline can be made so as not to have a disagreeable odor. A. Treat with cold solution of bichromate of potash and concentrated sulphuric acid, agitating thoroughly and allowing to settle. Decant, wash with weak alkali, followed by pure water, and if necessary distill, rejecting first and last portions of distillate. 2. Can it be colored red or blue? If so, what shall I use? A. For red, use extract of alkanet root. For other colors use oleates of the aniline bases. See SCIENTIFIC AMERICAN, vol. 63, No. 16, page 248.

(2807) S. E. H. asks how to prepare (1) a varnish, lacquer, or metallic compound with which I will be able to give a thin coat to a plaster Paris impression without heat and which will not peel off, but make a hard, smooth surface with no air bubbles, so that when a cast is moulded from it, the latter will come out very smooth. The article, if possible, should stand boiling water for an hour without change. A. Your requirements are too severe. Possibly by shellacking and subsequently japanning, you might effect your purpose, but we doubt it. We would suggest a trial of hydraulic cement for the moulds, made as smooth as possible, but unvarnished. 2. Please inform me if potash lye poured into clogged drain pipes will injure lead, iron, and glazed drain pipes by corroding the same, and to what extent? A. It will do no injury, unless on standing a long time.

(2808) E. S. F. asks: 1. Will you please tell me a good recipe for making a paste or gum that will make paper adhere to greasy cans? Something I suppose has to be added to the paste that will corrode the tin first. A. If the can is really greasy, remove grease by hot water. Use gum tragacanth in thick mixture with water for a paste. Also consult SCIENTIFIC AMERICAN, vol. 63, No. 15, page 227. 2. What essen-

tial oils can best be used to give an agreeable odor to flour paste? A. Oil of cloves. 3. Please give a recipe for a good mucilage, one that will keep? A. Gum arabic solution perfumed with oil of cloves. 4. When I make a gum out of dextrine, it is of a brown color. How can I make it white without disturbing its keeping qualities? A. Use pure dextrine. Filtering through bone black will tend to improve it.

(2809) M. M. asks: 1. What is the E. M. F. of a plunging bichromate battery with 2 carbon and 1 zinc plates 4×6 inches each? A. Very nearly 2 volts. 2. How many amperes of current will it give? A. On a short circuit of 0 resistance the battery would yield a current of from 4 to 8 amperes. 3. What is the voltage of the simple electric motor described in SUPPLEMENT, No. 641? A. It requires a current having from 8 to 12 volts E. M. F. 4. What is its current capacity and what part of a horse power will it develop with the battery mentioned? A. It requires a current of 6 to 8 amperes and will develop about ⅙ horse power under favorable conditions.

(2810) W. G. asks: Can you tell me 1. How I can clarify bleached shellac varnish, for use on drawings? A. Long settling might answer. 2. Also if there is anything better for the purpose than the above varnish? A. Try Canada balsam or dammar varnish thinned with turpentine, or if you wish an alcoholic solution, use gum sandarac varnish.

(2811) C. A. W. asks: 1. What would you dissolve phosphorus in, so you could apply it with a brush on a wall to have it illume up at night? A. Olive oil. Balmain's luminous paint is better. See SUPPLEMENT, Nos. 229, 249, 497. 2. What is the fastest printing press in the United States, and how many impressions will it take, and how many completed papers will it print a minute? A. The Hoe perfecting press; it will print and fold 500 eight page papers a minute, the size of the page being about 17 by 22 inches. 3. What pay does the average machinist get, and is that a good trade for a young man to learn? A. It would be hard to strike an average that would be worth anything; the wages vary from $2 to $5 a day. It is a good trade, but requires intelligence and hard work to get to the top. 4. How do you temper drills, so they will bore the hardest steel known? A. Heat to dull redness and plunge into a strong solution of zinc chloride. This hardening is only superficial and will have to be repeated after the drill is ground.

(2812) H. L. J. asks: Will you please inform me how to prepare canvas for oil painting? A. Nail the canvas on the stretcher, then give it a coat of thin glue size. Allow this to dry, then apply paint of the desired tint with a palette knife. The paint should have about the consistency of that sold in artist's tubes.

(2813) H. J. D. asks how to make white stain for the bottoms of shoes. A. Leather is bleached with a solution of oxalic acid. It is apt to injure the leather.

(2814) G. R. asks what the chemical ingredients are that are in the smoke emitted from soft coal. A. Principally carbon and vapor of water, with possibly minute quantities of hydrocarbons.

(2815) McF. & Co. ask: Why cannot water be made by gravity to run through a square coil of pipe, such as is sometimes used in the heaters when laid in a horizontal position? By pouring water in at the top it will not run out at the lower end. We think we know the air prevents it, but why does it? We certainly know the water is heavier than the air, and think that three inches or four inches of head should force both the air and water down and up through the returns of pipe and down out through bottom outlet, but it won't. We have tried it. A. A coil, either square or circular, with a number of turns, when laid on its side, forms a series of siphons, in which, if there is but one turn, water will flow through when the ends terminate on a level with the top and bottom of the coil. When there are two turns, the head where the water is poured in must be twice as high as the diameter of the coil, with three turns, three times the height and so on. The coil becomes a series of siphons, each siphon after the first, re-enforcing the preceding siphon by its own hydrostatic pressure. Thus the first coil or siphon overflows and the water drops to the bottom of the second, and seals the air in the down leg and forcing the water up the next leg, the air remaining in the down leg, and so on through a series, each upward leg of water adding its quota of hydrostatic pressure to be overcome by adding to the height of the water inlet.

(2816) T. P. A. writes: Suppose the + wire of an incandescent circuit is grounded, the − wire being perfectly insulated, does any current go to ground? If not, what is the object of ground detectors? A. If one wire is grounded and the other is perfectly insulated, there would be no circuit, and as a consequence the current would not flow. Perfect insulation, however, is impossible. With the best there will be a small leakage, but this is negligible. The object of a ground detector is to determine when both branches of the circuit are grounded to such an extent as to interfere with the working of the circuit. 2. I have been told I could get a shock by grounding. say + wire, the − being perfectly insulated. I say no. What do you say? A. Generally enough of the current will find its way to the ground by leakage to give a serious shock. In the case of some arc light circuits, a ground connection through the body has proved fatal.

(2817) G. R. asks: Between what ages can a boy serve as a "page" in the national House of Representatives? What is the salary paid, and do they get pay monthly, whether House is in session or not, and about how many pages are required in that House? A. The House of Representatives has thirty-two pages, who get $75 per month during the session, nothing when House is not session. A boy is eligible at 12 years of age and can remain as long as he has a good political backing up to 24 years of age.

(2818) F. F. V. asks: If 25 open gas jets are burning to the best advantage in a room 18 by 18 feet, and the same amount of gas is burnt in an improved gas stove, in a room the same size, will the temperature register the same in both rooms, and if so, why? And if not, why? A. There will be but little difference in the total amount of heat. The gas jets would overheat the top of the room, while the gas stove would equalize the heat by heating the air near the floor, and would also produce a general circulation and equalization of the heated air throughout the room. The thermometer, if hung high, would indicate in favor of the gas lights.

(2819) J. R. asks: How are plans for exterminating Australian rabbits entered for the prize with the New South Wales government? A. Address Hon. F. Abigail, Sec. for Mines, Sydney, New South Wales.

(2820) J. A. W. asks: 1. Can you furnish me with a book containing the recipes for making gold, silver and nickel solutions? A. We supply Watt's "Electro-Deposition of Metals," $3.50 by mail. Also see SUPPLEMENT, No. 310, for a very good article on the subject. 2. Can you furnish me with a recipe for coating brass that will wear well and withstand the action of hot potash and cyanide of potassium? A. This is almost an impossibility. You might cover with an India rubber tube, or even deposit India rubber on it by deposition. This would have then to be vulcanized, preferably by treatment with chloride of sulphur dissolved in naphtha, followed by heating toward the boiling point of water.

(2821) H. H. writes: Can you give me a receipt for an ink (waterproof) that will do just as well for drawings as the so-called India ink? A. We recommend you to rub up India ink in a solution of shellac in borax water. If it were not for its corroding qualities, an ammoniacal solution of shellac would give an absolutely waterproof vehicle for India ink.

(2822) C. L. H. asks: I am a stamp collector wishing to know how to make adhesive paper to hinge stamps in an album. A. Nothing is really better than solution of gum arabic just perfumed with oil of cloves. Postage stamp mucilage has often been published, as follows:

Dextrine	2 parts.
Acetic acid	1 "
Water	5 "
Alcohol	1 "

(2823) J. V. D. writes: I have a quantity of cider that has taken up a taste from a cistern coated with tar. Is there any way by which the taste can be removed or neutralized? A. Try placing a bag of bone black in a sample of the cider. Success is doubtful.

(2824) A. B. asks how to cement polished glass to cast iron (planed smooth). I have tried Major's cement; it sticks good, but in taking it off with hot water, small pieces of glass break off and spoil it. I wish to know if there are other cements that will hold as tight as Major's, but can be removed without injury to the glass, and how to do it. It must be a liquid cement. A. Soak fine white glue or gelatine in water over night. Pour off the surplus water and add molasses equal to about 25 per cent of the bulk of glue. Heat gently and stir until the mixture is formed. You can vary the proportion of molasses to suit. Glycerine may be used instead of molasses.

(2825) A. W. B. asks: 1. What causes the singing noise that is heard on telegraph poles? A. The noise is due to the vibration of the telegraph wires, produced by the movement of the air. 2. Has alcohol ever been frozen? If so, at what temperature? A. Alcohol has been rendered viscid by low temperature, but never solidified. 3. Can the simple electric motor be arranged to produce the electric light, and how? A. Yes. By using a cast iron field magnet and winding the magnet and armature with No. 20 wire. 4. What is the best work on physics? A. It would be difficult to say which is best. For the advanced scholar, Daniell, Ganot, or Deschanel can be recommended, while "Experimental Science" is suited to all interested in physics. 5. Are the paper conductors in the simple Holtz machine placed on the same side of the apertured disk, and next to the revolving disk, when they are in position? A. They are both on the side of the disk remote from the revolving plate.

(2826) M. A. H. writes: What number complies with the following proposition: That if 5-7 of its $^{2}\sqrt{}$ be multiplied by 9-12 of 5-10 of its $^{3}\sqrt{}$ and then add 45435423999995227342295 to the product, and then extract the $^{6}\sqrt{}$ of the result, then divide by 20 and add 13 to the quotient, the final result is equal to 30? A. The easiest way is to commence at the bottom and work upward as far as possible. Thus 30−13=17=the quotient last named. Multiply this by 20, giving 340, which by the statement is the 5th root of the sum of the long number given (45435423999995227342295) and of a certain other number. Then 340^{5}=4543542400000. From this the given number must be subtracted, giving 0·4772655705. By the conditions $5\text{-}7x^{\frac{2}{3}}\times 9\text{-}12\times 5\text{-}10\times x^{\frac{1}{3}}=0\cdot4772655705$. The first member of the equation reduces to $225\text{-}840x^{\frac{5}{6}}$ and the whole equation reduces to $x^{\frac{5}{6}}=1\cdot78177813$. Solving, preferably by logarithms, we find $x=2$.

NEW BOOKS AND PUBLICATIONS.

ELECTRICITY IN DAILY LIFE. Illustrated. New York: Charles Scribner's Sons. 1890. Pp. xv, 288. Price $3.

The articles on electricity which have appeared in Scribner's Monthly Magazine during the past year are here collected into book form, producing a volume similar in its way to American Railways, produced by the same firm in the same way. The reputation of the authors of this work and the choice of topics are the best guarantee of its excellence. The illustrations are of the quality familiar to the readers of the magazine, and are also very numerous and pertinent to the subjects treated. It forms about as good a popular presentation of the subject as has yet been put before the public.

The Illustrated American.—This beautiful weekly publication, which is now issued in an improved form, so as to bind into conveniently sized volumes for the library, continues to be of as fine quality as ever. The issue for the week ending January 31 has, as opening article, the Geo. I. Seney collection of paintings, with an excellent portait of Mr. Seney. Many of the pictures of the celebrated collection are reproduced, and marginal cuts give the portraits of the famous artists whose works are displayed. The reproductions are admirable, giving all the softness and general effect of the original works. The great collection of Mr. Seney, which has a wide reputation for its excellence, is soon to be disposed of at auction in this city, and the *Illustrated American* gives the record of its masterpieces. Another article in this number describes and illustrates "Sioux Women at Home" as seen at the Pine Ridge Agency. The everyday life of the agency Indian is well shown, with graphic pictures of the semi-civilized product reproduced from photos taken on the spot. Another article is devoted to the U. S. S. Philadelphia, and, with numerous illustrations, gives an excellent idea of the great flagship of the North Atlantic squadron. Music, literature, history, and last, not least, "Women," receive their meed of attention in this issue.

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