Notes & Queries

J. M. C. asks: How can I make a permanent and brilliant green for the edges of blank books?

C. R. C. asks: Are buttons made from rice in imitation of pearl?

H. R. asks for a recipe for a composition marble, and for tinting and veining the same.

W. H. asks: How can I make some sort of alarm to wake me at night which will not make sufficient noise to wake the rest of the family?

D. & M. ask (1) how to prepare zinc so that it will hold paint without breaking or scaling, and receive a fine finish. 2. How are ornaments fastened on metallic cases without screws or tacks?

Answers to Correspondents

B S. asks: 1. Where is the crank pin of a locomotive when the cross head is exactly midway in its travel? 2. I have heard of instances of the lower flues in a locomotive boiler being burned while the upper ones were unharmed. What is the cause of that? 3. When an engine is pulling a train, where is the actual center of the drivers? I have been told that it was at the point where they came in contact with the rail. Answers: 1. It depends on the length of the connecting rod. When the cross head is at the center of the stroke, the connecting rod, if detached from the crank pin, would swing to the center of the driving wheel, so that you can lay down any particular case to scale and determine what you want to know. 2. Probably on account of scale or mud. 3. So far as we know, the actual center of a driving wheel is always the same.

C. H. M. asks: Having an ordinary steam gage, showing pressure of 70 lbs. per square inch, would a steam gage representing 2 square inches show double the amount of pressure? Answer: It would, if graduated in the same manner, and having the same sized spring as the first. But in practice, as steam gages are made, both would register alike.

W. W. A. says: We have trouble with the gate to our reservoir. There is 25 feet head. Will a gate, substantially like the circular dampers sometimes seen in stoves, answer a good purpose? If not, what will be better? Answer: If the moving parts are inside, it would be difficult to open the gate; and if they are on the outside, a great deal of water will leak through, when the gate is closed. There are several good gates in the market, and you can obtain particulars by communicating with a plumber or hydraulic engineer.

H. C M. asks whether a photographer is liable to suffer in health in consequence of handling the necessary chemicals; and if so, are there any means of avoiding this by filtering the air inhaled while using the poisonous chemicals? Answer: There is nothing about the practice of photography that is necessarily injurious to health. The handling of the chemicals, if ordinary care is taken, is not deleterious. The apartment should of course be ventilated.

S. M., Jr., says: I claim that, if two balls of the same diameter, one made of wood or any other light substance, and the other of a heavy substance such as iron or lead, are dropped from the same hight at the same time, they will reach the ground together, while my friend claims that the iron or lead ball, being the densest, will reach the ground first. Which is right? Answer: You had better try the experiment. We think the lead ball will reach the ground a little the sooner; though in a vacuum, they would both fall together.

J. H K. asks: What is the cause of water gathering on the outside of a pitcher filled with ice water? Is it the water passing through the pitcher, or is it the moisture of the atmosphere condensed upon it? Answer: When the water in the pitcher is colder than the surrounding air, the moisture in the air is condensed in the form of dew upon the outside of the pitcher. If the water is as warm or warmer than the air, no condensation takes place;

T. H. and J. P. D. ask what phosphorescence is, its cause, etc. Answer: There exists some difference of opinion among scientific men, but the best authorities consider it a slow oxidization of phosphorus, since experiments prove phosphorescence impossible in a vacuum. Phosphorus, in the state of slow combustion which takes place on exposing it to the air at ordinary temperatures, gives off acid vapors, which shine in the dark with a faint bluish light, hence the term phosphorescent has been extended to all bodies which exhibit a similar luminosity, from whatever cause it may arise. Familiar examples are phosphorescence of dead and decaying wood (fox fire) and of putrid fish. Some plants also emit in the dark a faint continuous light, probably arising from the combustion of some substance, such as a hydrocarbon, emitted from them. A more familiar kind of phosphorescence is that exhibited by many living animals, as by the glow worm and fire fly, and the numberless small marine animals which give rise to the phosphorescence of the sea at night. In nearly all phosphorescent plants and animals, the phosphorescence appears to be due to chemical action, in fact to a slow combustion; for it increases in brightness in pure oxygen gas, and ceases altogether in a vacuum. The female glow worm (*lampyris noctiluca*), whose abdomen is divided into 6 segments, shines on the under part of the last three abdominal rings. Within these is found the luminous matter, a yellowish white transparent substance, consisting of ramifying fibers and granules of an organic structure, heavier than water, yellow and opaque when dry, and consisting principally of a material which exhibits the chemical properties of soluble albumen. Dr. T. L. Phipson has given the name of noctilucine to this substance, and we published his description on page 257 of our volume XXVIII.

T. C. W. asks: What will soften hard water, in order to make it fit for washing clothes without injury to the fabric? Answers: You can soften the water by adding carbonate of soda—washing soda—as long as a whitish precipitate is formed. Let it settle and draw off the clear water above. Sometimes simple boiling will render the water after settling fit for washing.

F. R. asks: What is zopissa? Answer: Zopissa is the patent name of a patented compound in which we believe that pyroxylin or gun cotton is a prominent ingredient. In the opinion of the inventor. it is a marvelous substance.

A. asks for a touchstone for testing gold. Answer: The material commonly employed as a touchstone, and generally known by that name, is a species of quartz, colored dark by bituminous matter, of which large quantities are found in Saxony, Bohemia, and various other localities. Black flint slate will serve the same purpose. A set of needles or bars, of various degrees of fineness, are rubbed on the stone, and acid is applied to the streaks made by the needle and by the piece of jewelry to be tested. If the jewelry is not so good as the test needle, the streak made by it will dissolve first. Nitric acid of a specific gravity of 1·2 is commonly employed for testing gold.

H. M. asks: 1. Will a type setting machine that will only set two sizes of type be useful, and how many type should it set per hour? 2. On a locomotive, why do they have two eccentrics to each valve, when, by fastening the slotted piece on a pivot in the middle and the eccentric rod at one end, and by moving the valve rod up or down, the slot would produce the same effect with greater simplicity? 3. Are all the advertisements in the SCIENTIFIC AMERICAN of reliable parties, and are we sure of getting the worth of our money by sending to them? 4. Please give me a good recipe for making ice cream. Answers: 1. A good workman sets about 800 type ems per hour. A machine should beat that. If it sets two kinds of type, all the better. It depends upon the kind of work you wish to do. 2. If only one eccentric is employed for the forward and backing motion, it must be free to revolve partially upon the shaft. It is not enough to move the valve to the backing position; the eccentric must be shifted also; and it is generally considered more convenient to have two eccentrics. 3. We endeavor to exclude all advertisements from unreliable parties, but some little latitude is given to advertisers, every manufacturer thinking his own goods the best. In buying articles with which you are not practically acquainted, it is best to obtain advice from some reliable agent. 4. The best ice cream is said to be made of pure cream, sugar, and flavoring extract. We consider ourselves good judges of the quality of the manufactured article, but do not know much of the details of making it.

A. B. L. says: In the engraving of the Scott & Morton revolving steam engine (in your issue of April 5) I see a bearing on both sides of the cylinder in which the cylinder revolves. I would like to know how the bearing between the cylinder and fly wheel is supported, seeing that all means of supporting it is cut off by flywheel, crank pin, and piston? Answer: This bearing is attached to the bub of the flywheel, and is supported by the wheel bearings.

E. B. says: In view of the coming aerial voyage of Messrs. Wise and Donaldson, I submit to you the following propositions: 1. That a rocket shoots up when fired. 2. That a cannon, when fired, is thrust backward. 3. That at a recent trial with a new fire ladder (as stated in your paper) the same was driven backward by the stream of water, suddenly issuing from the hose on the top of the ladder. The moving effect in these 3 cases is caused by pressure against the atmosphere; and if such heavy bodies are moved by it, how much more would this be the case with aerial crafts, which are floating in the air, and are thus without any weight? It would be difficult to apply steam or gas, but I believe that a rotary blower, built of as light material as possible, would produce a stream of compressed air, strong enough at least to serve as a rudder. A spherical form of the balloon would, however, not be practicable, as any propelling power ought to be concentrated, and should govern the craft equally. I therefore would suggest a form wherein the balloon consists of two separate gas bags, the boat being between them. This scheme of course can be worked out in many different ways, but I believe that a rotary blower driven by hand with the help of a flywheel would answer the purpose admirably. Answer: The power that could be produced in this way would be entirely inadequate. We have heard a much better plan proposed. It is to produce frequent discharges of some light and powerful explosive, such as nitro-glycerin, and thus guide the balloon in any desired direction.

T. B. Jr. says: 1. I have a small steam engine cylinder 3 inches in diameter and 6 inches between ports. What boiler and what sized feed pipe will it require? 2. What power would it have, and (3) would it be enough to run a small lathe? 4. I also wish to know what a pattern for such a cylinder would cost. Answers: 1. About 25 square feet of heating surface, steam pipe about ¼ inch area. 2. About one horse power. 3. Yes. 4. Write to a model or pattern maker.

W. S. M. asks: 1. What is the best plan of annealing cast steel, to make it very soft without injury? 2. Suppose a well formed boat runs at 10 miles per hour with 10 horse power, how many horse power would be required to drive it at 15 miles or 5 miles per hour? Please explain the increase of power required for the increase of speed. 3. I would like to have directions as to the proper size, power, and speed of well shaped boats. Answers: 4. Heat to a cherry red, and allow the steel to cool very slowly, either covering it with hot ashes, or keeping it in the fire in which it was heated, allowing the fire to die out gradually. 2. The general law is that the horse power varies as the cube of the speed. On this assumption, the horse power required will be: For 15 miles an hour, 33¾; for 5 miles an hour, 1¼. 3. We will probably soon give some general proportions for small boats, and would be pleased to hear from such of our readers as have been building small steamers.

C. P. T. asks: What can I put into tonic beer to make a heavy foam when poured into the glass from the bottle? I put it up with carbonic acid gas, like soda water. I have tried gum arabic, isinglass, eggs, hops, etc., but they do not give the foam that I wish for Answer: Try adding enough sugar or sirup to give it consistency. We would not advise adulterating with any chemical.

S. G. Jr. says: I have seen some specimens of paper which had been made extremely hard. It was said to have been done by soaking the paper in a solution of chloride of zinc. I have tried it, with weak and strong solutions, and on different kinds of paper, but have failed to get any hardening results. I also saw some pieces of gas pipe, with screws and sockets, which was made out of paper. Answer: The property that chloride of zinc has of hardening paper was first discovered accidentally by Dr. R. Böhme in 1849. This gentleman was filtering a concentrated solution of chloride of zinc through filtering paper, when he noticed that the paper became thick and strong. He suggested that it might be rendered very useful, but little attention was paid to it until 1859, when T. Taylor took out an English patent for its use in making parchment paper. The solution used was as thick as sirup, and made perfectly neutral by adding the oxide or carbonate of zinc. The specific gravity is then 2·10. The action on the paper is stronger when heat, from 60° to 212° Fahr., is employed. When several sheets are prepared and pressed together they unite to form one. The ammonia sulphate of copper is now highly recommended.

C. F. E. says: Our water contains iron, calcium, sodium, potash, alumina, silica, and magnesia, as basic elements, with chlorine, sulphuric and carbonic acids as non-basic. One gallon of the water, as it flows from the well, contains 480 grains of solid matter, after evaporization by heat. This residue, after reaching a certain point of condensation, gives up a portion of the carbonic acid which is held in the water in combination with bases as bicarbonates. Can it be used with safety in a fire engine? Is it a good way to blow off a certain portion with a surface blow-off, say, every five minutes while running, and after stopping blow off all the water and fill up with fresh water from river? Answer: We are afraid to recommend the use of this water. Still, with some good scale preventive, such as the tannate of soda, it might be safely employed. But in the boiler of a steam fire engine, the spaces are so small that it is always best to use pure water, when practicable.

C. R. C. asks how chalk crayons are made; what amount of pressure is necessary, and if any substance other than pure chalk is used? Answer: There are numerous recipes for the manufacture of chalk crayons. One of the simplest is as follows: Pipe clay and the finest prepared chalk, equal parts, or pipe clay alone. Coloring matter according to tint desired. Mix into a paste with mild pale ale. Various substances are sometimes used to give the chalk a clay consistency, as Castile soap, shellac, gum arabic, etc. To give the crayons solidity, manufacturers use a cylinder two or three inches in diameter, open at the top and bottom, the lower end being secured over a perforated plate, having holes of the size of crayon desired. A tight fitting solid piston, moved equably by a screw, forces the soft mass through the holes in long fingers, which are afterwards cut into pieces and dried. The coloring matters used are indigo, Prussian blue, yellow ocher, carmine, vermilion, etc.

S. G. asks: Was the meteoric display, which occurred last August, at midday, and seen by most of the citizens of Lexington, Ky., noticed at any other place? Have astronomers or scientists given an explanation of the phenomenon? Was it connected with Biela's comet, which must have been near the earth at that time? Answer: Meteors are comparatively rare between August 11 and September 4. A shower "on the 29th and 30th of August at midday, lasting from noon until four o'clock," is very unusual. We have not heard of such a display elsewhere. If seen again this year please let us know.

S B. D. asks: 1. Is it possible to make any use of iron after it has been burnt, such as old grate bars? 2. Is there any way of reducing old rusty scraps of sheet iron into cast iron? 3. Could a blast furnace be worked on a small scale with a hand bellows, profitably, if coal and ore were plentiful and cheap? Answers: 1. It can be re-melted. 2. Yes, in an ordinary blast furnace. 3. Not unless labor were very cheap, also.

E. C. B. says: An amount of oxymuriate of tin has become much diluted with water. How can it be precipitated and returned to its metallic state? Answer: The protochloride of tin, commonly known by dyers as tin salt, is soluble in water, but by contact with the air a white precipitate of oxychloride of tin is formed, which remains suspended in the solution, giving it a milky appearance. If this is the oxychloride that you refer to, you will find that it is soluble in an excess of hot muriatic acid. From this solution tin may be precipitated in the metallic state by a strip of zinc, the tin forming gray laminæ or a spongy mass. Some manufacturers of tin salt mix sal ammoniac with it to prevent the precipitation of the oxychloride.

Ig. asks: 1. Is there any reward offered by this or any government for the discovery or invention of perpetual motion, and if so, how much? 2. Would the inventor of such a device derive any great benefit therefrom? Answers: 1. No reward is offered. 2. We think not. But you may try it practically. Put yourself within a tub and pull steadily at the bandles. This is the simplest form of perpetual motion. In other forms, cog wheels and levers are arranged to pull against themselves. This is the "idee" in all perpetual motion machines, and no advantage can result.

H. asks: If a tug boat can tow a ship at a certain rate, can the same engine, being placed in the ship, be made to propel her at the same rate? Or does the engine, by being in the tug, have more power to move the ship than if it were in the ship itself? Answer: See our editorial columns in this issue.

A. B. says: I claim that a solid column of metal is stronger than a hollow one of the same diameter. My opponent claims it is not. Which is correct? Answer: The solid column is the stronger, the diameters of the two being the same.

J. Y. of Leeds, England.—The Science Record has been published two years. We can send you the two volumes, postage prepaid, for £1.

J. H. H. says in answer to J. S C.'s query about oil of rhodium: "Oleum rhodii" from rhodium wood (the root), *genista canariens*; 80 lbs. of old resinous wood yields 2 ounces of oil. Color of oil, light yellowish, by age turns red. Odor, of roses. Wood used for fumigation. Cordial and cephalic. Imported from the Levant.

W. W. A. replies to T. W. S., who asked how to keep paste from souring: Stir in pulverized alum while cooking, about a teaspoonful to a pint of paste. The alum will also keep the flies out of the paste pot.

S. P., Jr., asks how to proceed with a drive well after driving down a certain distance and not obtaining water. "I have driven down into the ground 22 feet of 1¼ inch tubing and attached my pump thereto, but am unable to start her. I do not think that it is for want of water, as water can be obtained here almost at any time at a depth of from 2 to 8 feet from the surface of the ground. I had to dig a hole 4 feet deep in order to put down the set length which is attached to the pump, and before I could screw the set length on to the tubing I had to dip out the water that had accumulated in the hole, which was half full." Answer: We can best answer this question by relating a little anecdote. "Suppose," said an examiner to a competitive in engineering, "you should build an engine yourself, perform every part of the work without assistance, and know that it was in complete order; if, when put into a vessel, the pump would not draw water, what would you do?" "Go to the side of the vessel and ascertain if there was any water in the river," answered the competitive.

A. K. S. says, in answer to B. A. O.'s queries on page 27, current volume: Girdle trees as early in the season as the bark will peel, in the following manner: Commence three or four feet from the ground, cut the bark entirely around the tree; then strip the tree down to the ground, leaving the bark intact at the base of the trunk. This will kill most kinds of timber so that the stump or roots will not sprout. Honey locust is an exception. I never knew or heard of one of these trees being killed (except by fire) so that it did not sprout from roots. A few times grubbing of the sprouts will end this. In answer to query 4. I would say that iron is a permanent cure for nose bleeding and for boils. The best preparation is the tincture of the muriate (*tinctura ferri muriatis*). Take 20 drops in a wineglass of water twice a day for three weeks. The above is a dose for an adult. I have known it to cure several severe cases. A solution of alum sometimes gives a temporary relief.

MINERALS.—Specimens have been received from the following correspondents, and examined with the results stated:

A. R. G.—The substance enclosed is peat, used as a fuel.

M. M. G.—The mineral is felspar.

J. T. C.—No. 1 is felspar, used in the manufacture of pottery and porcelain. No. 2 is copper pyrites, iron pyrites, and galena, all valuable if in large quantities and near to means of transportation. No. 3 is hornblende; of no value; it occurs with copper pyrites, and is known as "dead rock." No. 4 is copper and iron pyrites in quartz rock.

W. M. A.—The specimens you send are kaolin and felspar, the kaolin evidently resulting from the disintegration of the felspar. The kaolin contains too much grit, or undecomposed felspar, to be of use without washing. You may find some, however, as the deposit is so large, that is free from grit. This is easily determined by crushing a small piece between the front teeth. The specimens of felspar are good. It is used by the potters under the name of "spar;" and kaolin is even more extensively applied to the same purpose.

W. C. A.—The sample enclosed is ferruginous sand, consisting of the protoxide and sesquioxide of iron or magnetic iron ore mixed with some silica. It sometimes contains a considerable quantity of titanium. If found sufficiently pure and abundant, it might pay to smelt.

S. K.—1. Quartz, and iron pyrites. 2. Pyrites. 3. Copper pyrites. 4. Galena and quartz. 5. Galena. 6. Pyrites. 7. Quartz. An assay or analysis for silver or gold will cost $10 for each specimen.

COMMUNICATIONS RECEIVED.

The Editor of the SCIENTIFIC AMERICAN acknowledges, with much pleasure, the receipt of original papers and contributions upon the following subjects:

On the Crewe Engine Works. By J. R.

On Meteors. By S. G.

On the Origin of the Earth and Stars. By C. B. Jr.

On French Telegraphy. By T.

On Retrogression of the Sun. By C. H. B.

On Solar Reaction. By R. B. S.

On Inversion by Vision. By J. M. R.

On a Balloon Safety Valve. By S. W. G.

On a Suggestion for Balloonists. By J. W. S.

On Boilers and Boiler Owners. By A. J.

On the Zodiacal Light. By J. E. H.

On Fire Arms. By C. P. T.

On the Patent Right Question. By H. A.W.

On Setting Saws. By J. F. T.

On Deviation of the Compass. By J. W. S.

On Tool Holders. By H. W. P.

On a New Mechanical Principle. By D. M. B.

On Turbine Wheels. By J. H.

On Navigation of the Air. By C. B. S.

Also enquiries from the following:

W. E. S.—A. H.—C. M. H.—J. M. A.—J. W.—E. A. H.—A. G.

Correspondents who write to ask the address of certain manufacturers, or where specific articles are to be had, also those having goods for sale, or who want to find partners, should send with their communications an amount sufficient to cover the cost of publication under the head of "Business and Personal," which is specially devoted to such enquiries.

[OFFICIAL.]

Index of Inventions

FOR WHICH

Letters Patent of the United States

WERE GRANTED FOR THE WEEK ENDING

July 15, 1873,

AND EACH BEARING THAT DATE.

[Those marked (r) are reissued patents.]

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Lubricator, steam cylinder, L. F. Smith	140,958
Man hole covers, securing, J. J. Craven	140,893
Meat chopper, H. P. Rankin	140,950
Meat and vegetable cutter, Hall & Ellis	140,824
Medical compound, T. T. Wright	140,866
Mirror holder, W. Simpson	140,851
Miter box, G. M. Stevens	140,853
Miter machine, D. Bull	140,763
Motion, transferring, W. H. Benson	140,878
Movement, intermittent rotative, R. C. Reynolds	140,951
Mowing machine, C. Colahan	140,890
Nozzle, steam, W. Ebbitt	140,902
Numbering heads, C. W. Dickinson	140,899
Organ, reed, R. Burdett, (r)	5,485
Packing, piston rod, W. W. Vanderbilt	140,973
Paint for oil barrels, etc., W. L. Elkins	140,817
Pavement, W. Kilburn	140,835
Pavement, laying cement, A. F. Shyrma	140,956
Pen, fountain, J. Goodyear	140,771
Pencil case, S. S. Rembert	140,842
Pencils, machine for finishing, T. H. Muller	140,946
Petroleum, refining, S. Van Syckle	140,801
Pipes, lining cement, M. Stephens, (r)	5,494
Pipe, smoking, W. H. Morris	140,940
Pitcher, molasses, D. C. Ripley	140,793
Planter, potato, C. Svendsen	140,965
Potato screen, G. Claflin	140,866
Powder keg, Green & Wilson, Jr	140,913
Press, cotton, J. P. Pridgeon	140,841
Printing press, C. B. Cottrell	140,813
Printing press, feeding paper to, Stoddard *et al.*	140,952
Pruning shears, G. Vanfossen	140,974
Pump, lining wooden, R. W. Wheeler	140,802
Pump, double acting force, J. P. Flanders	140,819
Pump plunger and pump, N. P. Sheldon	140,795
Railway rail joint, J. Bishop	140,760
Railway signal, electric, F. L. Pope	140,790
Railway signal circuit closer, D. Rousseau	140,953
Railway switch, A. C. Garratt	140,770
Railway switch, M. & J. W. Fels	140,909
Railway switch, B. Hall	140,915
Railway switch, F. P. Hanchett	140,917
Railway tie, G. R. Richardson	140,952
Rivets, manufacture of hollow, M. Bray	140,881
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Roofing composition, C. Mueller	140,945
Roofing, metallic, C. Lewando	140,928
Rubber into strips, cutting, T. J. Mayall	140,933
Saddle tree, S. E. Tompkins, (r)	5,495
Sash cord guide, C. B. Clark	140,887
Sash holder, Devol & Okey	140,898
Saw, pulley for band, Roche & Orton	140,794
Scaffold, adjustable, J. S. Tilley	140,858
Scraper, Mayfield & Payne	140,935
Scraping hogs, McNeil & Dalton	140,838
Screw cutting machine, Jaycox & Webster	140,780
Sealing cans, solder for, E. Morris	140,840
Seat, revolving, G. F. Dawson	140,895
Seeding machine, H. F. Stinde	140,961
Sewing machine, T. L. Melone	140,787
Sewing machine stand, H. Loth	140,919
Sewing machine table, J. Bennor	140,874
Sewing machine table, J. Bennor	140,875
Sewing machine table, J. Bennor	140,876
Sewing machine treadle, W. D. Wood	140,865
Sewing machine balance wheel, D. G. Williams	140,832
Sewing machine extension table, J. Bennor	140,877
Sewing machine threader, M. A. & J. T. Williams	140,833
Sharpening machine, Kealey & Rigney	140,832
Shoe, ladies' gaiter, H. C. Letsinger	140,836
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Sifter, A. Bardell	140,869
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Soda, extracting nitrate of, R. F. Fairlie	140,908
Spade and fork, H. Stone	140,855
Spike, G. N. & G. N. Sanders, Jr	140,844
Spinning ring, J. B. Bancroft	140,757
Steel for punching, etc., treating, G. W. Billings	140,759
Steel plates, O. Bolton, Jr	140,762
Step and step box, J. Watson	140,977
Stereotype molds, making, R. A. Hill	140,921
Stone and glass polishing, J. Meisse	140,937
Stove, heating, J. L. Ring	140,843
Stove pipe shelf, D. R. Moore	140,939
Stove pipe shelf, W. Patterson	140,788
Stove, summer, W. A. Barlow	140,870
Tassel for umbrellas and canes, W. Harnach	140,825
Telegraph, pneumatic, A. Jaynor	140,923
Thill coupling, C. F. Kidder	140,833
Tobacco transplanter, C. E. Bates	140,806
Toy, automatic, H. L. Brower	140,883
Toy automaton, R. J. Clay	140,765
Toy catapult, W. S. How	140,922
Toy money box, T. A. Taylor	140,798
Trap, ant, L. Rubarth	140,954
Trap and seed safe, animal, S. V. Greer	140,773
Trap, hog, A. B. De Vore	140,816
Umbrella notches, A. & I. Herzberg	140,930
Vessels, oscillating cabin for, B. Weisker	140,978
Wagon weighing attachment, J. W. Hill	140,826
Walls, gage for erecting plank, T. W. H. Moseley	140,943
Washing machine, J. W. Conroy	140,812
Watch escapement, D. J. Mozart	140,944
Water closet, J. H. Stevens	140,797
Water elevator, S. Bennett	140,808
Water, elevating, Blanchard & Prall	140,879
Water supply valve, P. Harvy	140,918
Well, driven, G. W. Storer	140,963
Windmill, W. W. Marsh & O.E. Miles	140,931
Windmill, J.F. Stewart	140,854
Window sash and frame, D. Mackay	140,783
Window screen, J.A. Thompson	140,967

APPLICATIONS FOR EXTENSIONS.

Applications have been duly filed, and are now pending, for the extension of the following Letters Patent. Hearings upon the respective applications are appointed for the days hereinafter mentioned:

25,673.—BOOT LASTING MACHINE.—J. Purinton. Sept. 17

25,692.—SEWING MACHINE.—K. Vogel. September 17.

25,701.—SKELETON SKIRT.—J. Draper. September 17.

25,783.—DOUBLE FRICTION COUPLING.—J. Hendy. Sept. 24.

25,784.—MAKING BARRELS, ETC.—G. W. Banker. Sept. 24.

25,797.—HARVESTER.—E. Ball. October 1.

25,807.—HEM FOLDERS.—L. Clark. October 1.

25,862.—WEEDING HOES.—J. M. Adams. October 1.

EXTENSION GRANTED.

24,828.—PUMPING ENGINE.—H. R. Worthington.

DESIGNS PATENTED.

6,771.—BURIAL CASKET.—B. F. Heimbach, Allentown, Pa.

6,772.—BURIAL CASE.—B. F. Heimbach, Allentown, Pa.

6,773.—JEWELRY BOX.—E C. Moore, Yonkers, N.Y.

6,774.—FAN.—J. T. Brundage, Niagara Falls, N. Y.

6,775.—DRAWER PULL.—O.F. Fogelstrand, Kensington, Ct.

TRADE MARKS REGISTERED.

1,361.—LICORICE PASTE.—D. V. Arguimbau, N. Y. city.

1,362.—QUILL BOBBINS.—D. Bass, Jr., Woonsocket, R. I.

1,363.—COFFEE.—Dilworth Brothers, Pittsburgh, Pa.

1,364.—PACKAGES OF WHISKY.—Howe & Co., Cincinnati, O

1,365.—CIGARS, ETC.—F. S. Kinney, New York city.

1,366.—SADDLE TREES.—S.E. Tompkins & Co., Sing Sing, N.Y

1,367.—RAZORS, ETC.—Friedmann & Co., New York city.

1,368.—VARNISH.—L. L. Mandel, New York city.

1,369.—HOMEOPATHIC GLOBULES.—Smith & Co., Cinn., O.

1,370.—CYLINDER STOVE.—Southard & Co., N. Y. city.

SCHEDULE OF PATENT FEES:

On each Caveat	$10
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On issuing each original Patent	$20
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On application for Reissue	$30
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On granting the Extension	$50
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CANADIAN PATENTS.

OFFICIAL LIST OF PATENTS GRANTED IN CANADA FROM FEBRUARY 14, 1873, UP TO AND INCLUDING APRIL 7, 1873.

Patents taken by citizens of the United States are marked U. S.

[NOTE.—Under the new patent law, now in vogue, American citizens may patent their inventions in Canada on favorable terms. For full particulars, address Munn & Co., Office SCIENTIFIC AMERICAN, 37 Park Row, N. Y.]

Axle blank finishing tool, H. E. Forrest, U. S.	2,194
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