constructed as herein described, for the purpose of driving variou kinds of machinery.

37,583.—Bridle.—A. H. Langholz, Chicago, Ill.: I claim the combination of the nose and jaw band, E, with hook, G, at each end, when arranged with the head stall, and ened by the hooks to the top of the bit, as herein described, for purposes set forth.

purposes set forth.

37,584.—Machinery for Coating Thread of one Fiber with another Fiber.—Alphonse Loiseau, Bernay, France:
I claim the arrangement of machinery for coating or covering a core with a thread of wool, or for surrounding a core of any material with a thread of any desired material, hereinbefore described and illustrated in the accompanying drawings.

37,585.—Sewing-machine Needle.—John Madden, Youngstown, Ohio:
I claim, as a new article of manufacture, the sewing-machine
needle, constructed as herein set forth.

37,586.—Journal Box.—W. T. Morrow, Chicago, Ill.: I claim the arrangement of the adjustable liner wedge, B, in combination with a journal box. A, constructed and applied substantially as and for the purposes set forth. [This invention consists to the arrangement of an adjustable wedge

capable of being slipped between the guides on the face or over flanges on the edges of the driving box of a locomotive or of the journal box of any other axle, in such a manner that by means of said wedge any wear occurring on the face of the box can be com pensated without removing the box.]

pensated without removing the box.]

37,587.—Apparatus for Threading Needles.—James O'Kane, Philadelphia, Pa.:
I claim, first. The cam, C, so formed, graduated and arranged in respect to the hole, c, in a plate, a, to which the cam is hung, that the eyes of needles of different sizes may, by the aid of the cam and its graduations, be brought to coincide with the said hole in the plate, for the purpose specified.

Second, In combination with the graduated cam or its equivalent, I claim the slide, D, with its notch, I, the whole being arranged and operating substantially as and for the purpose described.

Third, The flexible lip, B, arranged on the plate, a, in respect to the hole, c, in the said plate, and the notch, I, in the slide, D, substantially as and for the two-fold purpose described.

37.588.—Water Meter.—John Percy Albany N. V.

stantially as and for the two-fold purpose described.

37,588.—Water Meter.—John Percy, Albany, N. Y.:
I claim a balance valve, as constructed, for the purpose described.
I also claim the arrangement and combination substantially in the manner and for the purpose set forth in the above specifications, of the following apparatus, viz., the valve chamber, P, with its valves, v and v', and stem, T, the chamber, D and E, the cylinders, F and G, with their pistons, H & J, connected with the beam, L, the valve, O and K, connected with the beam, M, the valve, N and O, also connected with the beam, M, o, operating valves, I and K, the lever, U attached to the valve shaft, T, the detents, I and Z, with their pins, and T, lever, 3, attached to the shaft of the beam, M, with the trip-ping levers, 4 and 5, spring, W, operated by the beam, M, in order to operate the lever, v, the lever, X, as connected with apparatus measuring the water, forming logether a complete water meter.

37,589.—Bedstead.—D. U. Pratt, Cleveland, Ohio:
I claim making bedsteads with the side rails and support for the slats, four inches, more or less, higher at the head than at the foot, as and for the purpose herein set forth, the same being a new article o manufacture.

37,590.—News Distributor.—J. H. Pratt, New York City:
1 claim combining with a balloon, mechanism which is capable of
throwing off ordelivering news sheets into the air, during the flight
of the balloon, for the purpose set forth.

37,591.—Process of Manufacturing Enameled Fruit Jars and other Vessels.—Horatio Reed, Jersey City, N.J.: I claim the lining of a metallic can while in a red-hot state with glass, which is blown in a bot state into a metallic can.

gluss, which is blown in a not state into a metanic can.

37,592.—Machine for Spreading Japan, &c., over Fabrics.

—Ferdinand Sautermeister, Newark, N. J.:

I claim the use of a drum or cylinder with its surface roughened by sand, gravel, pounded glass, or any like substance, for carrying forward cloths in the process of japanning or painting.

I also claim the spring bars, 6, and the roughened rollers, L and M, when used in combination with the cylinder.

37,593.—Machine for Corrugating Metals.—S. J. Seely, Brooklyn, N. Y.:
I claim, first, So operating, retaining and corrugating dies together in a machine for corrugating sheet metal, that the retaining die forms the first corrugation and takes into the corrugations formed successively by the corrugating die, substantially as and for the purpose set forth.

Second The organization of means of the purpose set forth.

Second. The organization of means, substantially as herein de. Second. The organization of means, substantially as herein de. Second. The organization of means, substantially as herein de. seribed, for the purpose of corrugating sheet metal, the said organization consisting of the frame, A, bed, B C, with dogs, the female dies, the male dies with sash beams, the toggle levers, or equivalents, adjustable crosshead, and the gearing or its equivalent, constructed and arranged as set forth.

Third, In a machine for corrugating metal, operating substantially as described, I claim the adjustable crosshead with its hand screws and guide screws, for the purposes set forth.

37,594.—Step Ladder.—D. J. Stagg, New York City:
I claim the standing or supporting frame, A, in combination with
the slep ladder, either or both of them, connected to the frame, A,
substantiatly as shown to admit of the adjustments herein set forth.

[This invention consists in combining one or more step ladders with a standing frame or support, the parts being constructed and arranged in such a manner that the frame will, at all times, serve as a support for the ladder or ladders, and admit of the same being adjusted in an inclined position for use, and also admit of the same being drawn or folded compactly within the frame when not required for

37.595.—Cover for Preserving Vessels.—Israel Stratton, Philadelphia, Pa.: Israel Stratton, I claim the plate, B, its annular flage, b, screwed stem, C, and ring, e, of gum elastic or other suitable material, in combination with the yoke, D, and its projections, d, when the said yoke serves the purpose of a nut, and when the whole is constructed and applied to the mouth, A, of the vessel, and its flange, a, as and for the purpose herein set forth.

37,596.—Valve for Steam Engines.—Daniel Teeter, Hagerstown, Ind.:

37,596.—Valve for Steam Engines.—Daniel Teeter, Hagerstown, Ind.:
I claim, first, The rotary valve, G. constructed as herein represented and described in combination with the steam ports, 1, 2, 3, 4, in the valve seat of the double cylinder, D. when said ports are arranged and the rotary valve adapted to operate in connection with them, in the manner and for the purpose set forth.
Second, The T-headed spindle, H, beveled cog wheels, c.g., and shart, in combination with the loosely-fitted beveled gear wheel, if, feather, n, and gear wheel, 0, when arranged in the manner and for the purpose specified.
Third, The bevel pinion, j, fitted loosely on the end of the shaft, thandattached to it by means of a feather or pin, n, fitting a radial amortise in the hub of the pinion, j, in the manner described; in combination with the fixed cog wheel, m, and toothed segment lever, J, adapted for reversing the motion of the engine by changing the relative position of the valve on its seat, substantially as described.

[This invention consists, first, in the combination of a peculiarly

[This invention consists, first, in the combination of a peculiarly constructed rotary valve with the ingress and egress parts of a double steam cylinder, whereby the engine is adapted for movement in either direction. Second, in a peculiar arrangement of devices for imparting motion to the rotary valve. Third, in certain means pro vided for changing the relative position of the valve on its seat, thereby adapting the engine for movement with like efficiency in either

37,597.—Blind Fastening. &c.—Wenzel Teepfer and Her-man Rugee, Milwaukie, Wis.: We claim, first, The sliding bar, D, connected with the lower butt, B, of the blind through the medium of the link, C. Second, Securing said bar, D, or preventing the casual movement of

the same, and at the same time locking the blind by means of the notch or recess, i, pressure rod, k, and the opening in the face plate, F, as herein shown and described.

Third, The rod or shaft, G, provided at one end with the arm, H, and at the opposite end with the lever, I, connected with the slide, T, in combination with the pin, q, on the arbor, r, of the knob, L, the lip, o, on the slide, T, and the lever, P, and rod, O, attached to the blind, B, all arranged to operate as and for the purpose herein set forth.

[This invention relates to a new and useful arrangement of means for opening and closing window blinds and adjusting their slats, open ing and closing them, from the inner side of the window within the compartment, without the necessity of raising the sash.]

37,598.—Fastening for Door Latches.—J. F. Tozer, Binghamton, N. Y

hamton, N. Y.:

I claim the plate, H. attached to the inner side of the collar, E, and having a segment removed or cut off from it so as to leave a straight edgeor surface, b, in combination with the bearing, J, and key or wedge, K, all arranged and applied to the door, and in such relation with the knob arbor, A, to operate as and for the purpose herein set forth.

This invention relates to a new and improved catch or fastening tails invention tentes as a daw an improve cases of the tobe applied to the knob-arbors of locks and latches, in order to prevent the turning of the knob-arbors from the outer side of the door, and thereby convert the ordinary latch-bolt of a lock into a secure fastening, so as to dispense with the use of extra inside bolts, which are generally used on doors to guard against the picking of the locks.] 37,599.—Lamp Burner.—James Wolstenholme, Providence, R. I.:

I claim surrounding the under side of such flanch with a space of confused air for the purpose of preventing the cooling effect upon the flanch of ascending air currents, substantially as described.

37,600.—Lamp Burner.—H. C. Hunt (assignor to himself and G. W. Devin), Ottumwa, Iowa:

I claim, first, The elastic drum, J, constructed substantially as shown, so as to grasp and retain properly in position the chimney, L, and cone or deflector, K, and also admit of being fitted snugly on the disk, C, and readily detached therefrom, as herein shown and described.

scribed.

Second, The rotating disk, C, fitted on the top of the lower part, B, of the burner, in combination with the stationary rack, c, on the flange, b, of B, and the pinion, H, on the serrated wheel shaft, G, all arranged to operate as and for the purpose herein set forth.

Third, The spring, d. formed by slitting or cutting the wick tube, D, as described, and laving such a relative position with the serrated wheels, F E, to operate for the purpose set forth.

wheels, F.E., to operate for the purpose set forth.

37,601.—Machine for Rolling Metals.—J. B. Mignault, A. B. Southwick and Charles Spofford, of Ballard Vale, and Albert Marshall, of Lawrence, Mass., assignors to the Whipple File Manufacturing Company, of said Ballard Vale:

I claim the above-described machine for rolling metals, consisting essentially of the rolls, a, and gears, H, upon the traversing carriage, in combination with the stationary patterns and rack-bars, operating in the manner substantially as set forth for the purpose described.

37,602.—Window-sash Fastenings.—Anthony M. Smith (assignor to Gilbert Sayres), Jamaica, N. Y.:

I claim the jointed swivel hasp, A, in combination with the swivel hook, D, and eccentric, J, arranged and applied to the sashes to operate as herein set forth.

This invention relates to an improved window sash fastening of

[This invention relates to an improved window sash fastening of

that class which are applied to the centre of the lower cross rail of the upper sash and to the center of the upper cross rail of the lower sash, and which are designed to lock or secure the sashes in a closed state. The object of the invention is to obtain a fastening of the kind specified which cannot be operated upon and unlocked from the outer side of the window.]

17,603.—Grinding File Blanks.—Alpheus B. Southwick (assignor to the Whipple File Manufacturing Co.), Ballard Vale, Mass.:

I claim the method of connecting the crank, I, with the wheel, G, by means of the pin, h, whereby the blank may be inserted in the holder without stopping the machine.

I also claim the combination of the spring, t, and screw i, with the land-wheel, T, and roller, R, for the purpose of graduating the force with which the article is pressed up to the stone as set forth.

With which the article is pressed up to the stone as set forth.

37.604.—Adhesive Plaster.—Joshua Melvin, Lowell, Mass.:

First, In combination with a gelatinous preparation and a backing of cotton or other fabric, I claim the use of a film of caout-chouc or analogous elastic and impervious material interposed between the gelatine and the backing to prevent the former from pentrating the latter and adapt the plaster to be rolled without injury. Second, Spreading a gelatinous preparation upon a foundation of caoutchouc or analogous elastic and impervious material in the manufacture of adhesive plasters substantially as set forth.

(This invention is adapted for the production of roller handages or

[This invention is adapted for the production of roller bandages or of plaster to be used in the usual manner. The elasticity and softness of the plaster are preserved by preventing the penetration of the backing by the adhesive material.]

REISSUES.

91.—Applying Pressure to Top Rollers of Drawing Machines.—Noah E. Hale, Nashua, N. H. Patented Nov.
8, 1859:

8, 1859: I claim my improved combination, or mechanism for applying pressure to and relieving from it, the top rollers of one or more sets of drawing rollers, the said mechanism consisting of one or more bars, G, the lever, J, the weight K, the lifting lever, L, the notched bar, N, and hanger, O, or their mechanical equivalent or equivalents, the whole being applied to the said top rollers substantially in manner and so as to operate therewith as described.

1,392.—Mode of Raising Sunken Vessels.—Casper Krogh & M. G. Hogness, Kroghville, Wis. Patented Oct. 21,

& M. G. Hogness, Kroghville, Wis. Patented Oct. 21, 1862:
We claim, first, The employment of inflexible lifters applied outside of the vessel, when arranged, constructed and operating substantially as and for the purposes set forth.
Second, The employment of the flexible chambers inside the vessel for preventing damaged vessels from sinking, when constructed and operated substantially as herein as delineated and described.
Third, The arrangement of the connections of the air pipes for the admission of air into the lifters at or near the bottoms thereof substantially as and for the purposes herein delineated and set forth.
Fourth, The weighted liexible pipes, if, applied to the lifters, and operating substantially as and for the purposes herein shown and described.

scribed.

1,393. (Div. A.)—Grain Drill.—Lewis Moore, Ypsilanti, Mich, formerly of Bart, Pa. Patented April 18, 1848, and extended:

1.claim, first, The box plates, F', employed to adjust a seeding cylinders in respect to the hopper bottom or other suitable part of the machine, to regulate the supply of grain substantially as set forth.

Second, The combination and arrangement of the levers, C, bars, C'P, and journals, p, with the hopper, B, frame, A, and supports, g, for moving the hopper and sowing cylinders in the arc of a circle substantially as and for the purpose set forth.

Third, The combination of the chains, O, with the tubes, L, and bar C', of the hopper-frame, by which the tubes are raised or lowered simultaneously with the turning of the hopper on its axis as described.

[This invention consists first in an improved mode of regulating the

[This invention consists first in an improved mode of regulating the supply of seed in cylinder drills, and secondly in a peculiar device for throwing the seeding mechanism in and out of gear.j
1,394. (Div. B.).—Grain Drill.—Lewis Moore, Ypsilanti,
Mich., formerly of Bart, Pa. Patented April 18, 1848,

I claim, first, A drill tooth provided with one or more flanges near is upper end by means of which it is both pivoted and braced to the drug bar in such a manner as to dispense with the use of a separate brace bar or its equivalent. and extended:

econd, Bracing a pivoted drill tooth to its drag bar by means of a oden pin held within or against a flange or projection upon the th and adapted to break in the event of the said tooth striking an movable obstacle.

immovable obstacle.

Third, Attaching the curved plate or nosing, L', to the front of the drill tooth by means of a dovetail overlapping the top of the said nosing and a screw or rivet lower down.

[This invention consists in a new mode of attaching drill teeth or hoes to their drag bars, the advantages being that the teeth admit of ready adjustment in their angle or pitch, and in the event of striking an immovable obstacle will yield without danger of the breakage of any of the parts.]

any of the parts.]

1,395. (Div. C.)—Grain Drill.—Lewis Moore, Ypsilanti, Mich., formerly of Bart, Pa. Patented April 18, 1849, and extended:

I claim the combination of the adjustable perforated gauge plate, C, with two or more holes or series of holes of different capacity when the said gauge plate is so arranged as to cut off the flow of seed from one capacity of opening and transfer it to another substantially as herein set forth.

[The object of this invention is to admit of readily adapting a

one capacity of opening and fransfer it to another substantially as herein set forth.

[The object of this invention is to admit of readily adapting a machine to sow any kind or quantity of grain.]

1,396.—Butt Hinge.—John F. Townsend, Westfield, N. Y., and P. P. Pratt, Buffalo, N. Y., assignees of said J. F. Townsend. Patented Nov. 4, 1862:

We claim the base, or sustaining portion, A, of the hinge consisting of the leaf, h, projecting radially or centrally from the knuckie, e, and pin, f, and having screw holes, it, countersunk on each side thereof, the whole arranged and operating substantially as described, and for in combination with the base piece, A, thus formed we also claim the movable piece, B, with its leaf projecting tangentially from the socket, in such a manner, that by inverting it, it is adapted to right and left use, as herein specified.

1,397.—Stove.—John G. Treadwell & Wm. Hailes (assignor to Wm. Hailes & Ellen T. Treadwell), Albany, N. Y. Patented May 7, 1861:

We claim, first, A base-burning-coal-supply-reservoir stove, or furnace, so constructed that the products of combustion do not pass up around and above the supply reservoirs nor up through the grate, but down outside of the fire-pot, toward the base of the stove and out through a man draft flue which leads directly from a space or chamber about the lower part of the stove—all for the purpose set forth, and substantially as described.

And substantially as described.

Third, A fire pot resting on a base, and imperforated on its inner passage downward—for united operation in a base-burning-coal-supply-reservoir stove or furnace, essentially as set forth.

Third, A fire pot resting on a base, and imperforated on its inner or outer circumference, or from its inner to its outer circumference, and so constructed and applied with respect to a coal-supply reservoir, that an inclosed horizontal chamber for the free expansion and circulation of the fisme and gases is formed all around and outside of the contracted discharge, and above the uppe

EXTENSION.

6,063.—Baking Apparatus.—John P. Hayes, Boston, Mass.
Patented Jan. 30, 1849:
I claim a cooking or baking apparatus having several parallel baking chambers, with divided horizontal flue spaces between them comunicating with vertical flue spaces on each side of them, substantially as herein-above described and so as to make the smoke &c. pass around said chambers, as above set forth. I also claim connecting said chambers with each others by the combination of the turning registers, c' c' c', in their backs with the vertical hollow shaft, d'd', in the manner and for the purpose herein above set forth.

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Models are required to accompany applications for Patents under the new law, the same as formerly, except on design patents when two good drawings are all that is required to accompany the petition, specification and oath, except the Government fee

PATENT CLAIMS.—Persons desiring the claim of any invention which has been patented within thirty years, can obtain a copy by addressing a note to this office, stating the name of the patentee and date of patent, when known, and inclosing \$1 as fee for copying. We can also furnish a sketch of any patented machine issued since 1863, to accompany the claim, on receipt of \$2. Address MUNN & CO., Patent Solicitors, No. 37 Park Row, New York,

NEW PAMPHLETS IN GERMAN.—We have just issued a revised edition of our pamphlet of Instructions to Inventors, containing a digest of the fees required under the new Patent Law, &c., printed in the German language, which persons can have gratis upon MUNN & CQ., No. 37 Park-row, New York. cation at this office. Address

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It is important that all works of reference should be well bound. The Scientific American being the only publication in the country which records the doings of the United States Patent Office, it is preserved by a large class of its patrons, lawyers and others, for reference. Some complaints have been made that our past mode of binding in cloth is not serviceable, and a wish has been expressed that we would adopt the style of binding used on the old series, i. c., heavy board sides, covered with marble paper and morocco backs and corners.

Believing that the latter style of binding will better please a large portion of our readers, we shall commence on the expiration of this present volume to bind the sheets sent to us for the purpose in heavy board sides, covered with marble paper and leather backs and corners.

The price of binding in the above style will be 75 cents. We shall be unable hereafter to furnish covers to the trade, but will be happy to receive orders for binding at the publication office, 37 Park Row New York.

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United States Patent Office, and with the greater part of the inventions which have been patented. Information concerning the patentability of inventions is freely given, without charge, on sending a model or drawing and description to this office.

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Persons having conceived an idea which they think may be patentable, are advised to make a sketch or model of their invention, and submit it to us, with a full description, for advice. The points of novelty are carefully examined, and a written reply, corresponding with the facts, is promptly sent free of charge. Address MUNN & CO., No. 37 Park Row, New York.

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The service we render gratuitously upon examining an invention does not extend to a search at the Patent Office, to see if a like invention has been presented there, but is an opinion based upon what knowledge we may acquire of a similar invention from the records in our Home Office. But for a fee of \$5, accompanied with a model or drawing and de-scription, we have a special search made at the United States Patent Office, and a report setting forth the prospects of obtaining a patent, &c., nuade up and mailed to the inventor, with a pamphlet, giving instructions for further proceedings. These preliminary examinations are made through our Branch Office, corner of F and Seventh streets, Washington, by experienced and competent person Many thousands such examinations have been made through this office. Address MUNN & CO., No. 37 Park Row, New York.

HOW TO MAKE AN APPLICATION FOR A PATENT.

Every applicant for a patent must furnish a model of his invention if susceptible of one; or, if the invention is a chemical production, he must furnish samples of the ingredients of which his composition consists, for the Patent Office. These should be securely packed, the inventor's name marked on them and sent, with the Government fees, by express. The express charge should be pre-paid. Small models from a distance can often be sent cheaper by mail. The safest way to remit money is by draft on New York, payable to the order of MUNN & CO. Persons who live in remote parts of the country can usually purchase drafts from their merchants on their New York correspondents; but, if not convenient to do so, there is but little risk in sending bank-bills by mail, having the letter registered by the postmaster. Address MUNN & CO., No. 37 Park Row, New York.

The revised Patent Laws, enacted by Congress on the 2d of March, 1861, are now in full force, and prove to be of great benefit to all parties who are concerned in new inventions.

ties who are concerned in new inventions.

The duration of patents granted under the new act is prolonged to SEVENTEEN years, and the Government fee required on filing an application for a patent is reduced from \$30 down to \$15. Other changes in the fees are also made as follows —

On filing each Caveat
On filing each application for a Patent, except for a design \$15
On issuing each original Patent\$20
On appeal to Commissioner of Patents\$20
On application for Re-issue\$30
On application for Extension of Patent\$50
On granting the Extension\$50
On filing a Disclaimer\$10
On filing application for Design, three and a half years\$10
On filing application for Design, seven years
On filing application for design, fourteen years\$30

The law abolishes discrimination in fees required of foreigners, excepting natives of such countries as discriminate against citizens of the United States—thus silowing Austrian, French, Belgian, English, Russian, Spanish and all ether foreigners except the Canadians, to enjoy all the privileges of our patent system (but in cases of designs) on the above terms. Foreigners cannot secure their in ventions by filing a caveat; to citizens only is this privilege accorded.

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Persons desiring to file a caveat can have the papers prepared in the shortest time by sending a sketch and description of the invention. The Government fee for a caveat, under the new law, is \$10. A pamphlet of advice regarding applications for patents and caveats, printed in English and German, is furnished gratis on application by mail. Address MUNN & CO., No. 37 Park Row, New York.

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Circulars of information concerning the proper course to be pursued in obtaining patents in foreign cour tries through our Agency, the requirements of different Government Patent Offices, &c., may be had gratis upon application at our principal office, No. 37 Park Row, New York, or any of our branch offices.



- H. S., of Philadelphia.—The cause of roaring and vibrating in steam boilers, after they are fired up and before all the water is heated to the boiling point, is fully illustrated and described on pages 254 and 262, Vol. XII (old series) of the Scientific American. You can witness the same phenomenon in an open boiler called a "bouking keer," in most cloth bleachworks and calico-printing establishments.
- M. R., of Conn.—The method of making oxygen gas from nitrate of soda, to which you refer, as described in the SCIENTIFIC AMERICAN, is not ours, but Mr. Webster's. The gas is not sufficiently pure to be used for inhaling into the lungs. A good galvanic battery is the best agent you can use to actuate an electro-magnet in moving the traveling weight to which you refer.
- D. B. T., of Ohio.—Night glasses to be worn on the face are not patentable under such an application, but if you have made an improvement in their construction to adapt them to such a purpose you can secure a patent. In many cases they might be useful to persons traveling at night.
- W. H. G., of Mass.—Wooden-soled shoes are manufactured at Chicopee, Mass. The invention has been patented in this country and Europe; and a description will be found on page 378, Vol. IV (new series) of the SCIENTIFIC AMERICAN.
- J. H. C., of N. H.—We perhaps misunderstand your inquiry. You ask how to prepare a copper solution to use with Smee's battery, and then state that you have tried without auccess to precipitate it after dissolving it in nitric acid, using both acids and alkalies in the experiments. The sulphate of copper may be used in Smee's battery, and the copper in such a solution may be precipitated by adding strips of iron to it. The copper falls downlin powder.
- C. T., of Pa.—The white cement used for marble and fine brick fronts of buildings is prepared by burning nodules of indurated marl and a species of argillaceous limestone in conical limekins. When properly roasted it is ground to powder and packed in barrels to keep it from moisture. For your special purpose you should purchase a small quantity of it.
- J. J. B. of Ill.—Glass is melted and molded into numerous articles, but it does not flow like molten lead. With respect to dropping a ball through a hole extending through the center of our globe, we do not wish to take up any more of our space in discussing the question.
- C. H. R., of Philadelphia.—It is perhaps true, as you suspect, that tubercular consumption is produced by a parasitic plant. The subject should be further investigated.
- L. L., of Pa.—Tredgold's work is the best on the marine engine, but it is very expensive and has not been re-published in America.
- J. B., of Maine—It is the ammonia in your soap that gives it the offensive odor. You should either omit it in the composition or use an aromatic oil to counteract the unpleasant smell.

- F. H. S., of Md.—At some future time we may obtain the desired information for you respecting salt-boiling. At present we have nothing new on the subject.
- C. M. W., of N. Y.—The cold air feed-pipe of a furnace should always be smaller than the smoke-pipe, because air expands to double its volume for every 491 degrees of temperature to which it is heated.
- J. H., of Ill.—In concentrating cane sugar sirup, the great object is to prevent scorching, which discolors the juice, hence the sirup is concentrated in our refineries in vacuum pans in which it boils at a low temperature. Sheet-iron pans will answer your purpose cheap evaporators, such as those which are used for concentrating maple tree sap. A small quantity of lime water should be mixed with the freshly-expressed juice to prevent fermentation, then it should be evaporated in shallow pans at as low temperature as possible.
- B. D. S., of Va.—The size of a turbine wheel depends upon the quantity of water that is to pass through it. Under your five-foot head to drive two run of 4½ feet stones, grinding wheat, the openings of a center-vent wheel should have an area of 1,200 inches. This also allows for driving all the attendant machinery. About one-twelfth more water is required for grinding corn.
- O. C. H., of Conn.—There is no published work devoted to the art of bronzing exclusively. Bronze powders are chiefly imported from Germany.
- G. H. C., of Iowa.—Buffalo robes which have become hardmay be rendered soft and pliable by treading upon them on a floor, then moistening them with water by the use of a sponge and stretching them out upon boards when they have become uniformly soft. Before they become dry they should receive a coating of tallow, containing about one ounce of bees-wax to the pound. This preparation should be put on the flesh side, moderately warm and in a warm an artment, after which the whole surface should be rubbed hard with a block of wood covered with a piece of leather.
- C. D., of Mass.—It is very difficult to temper steel iron springs and small pieces of steel wire equally by first heating thera in a mixture of oil and resin, and afterwards tempering by drawing the wire through flame. If, after hardening the wire in the usual manner, you would place it in an oven heated to about 55° Fah., then cool it, you would secure a more equal temper.
- T. D. S., of Pa.—The most common black varnish employed for harness consists of thin lac varnish colored with ivery black. It is injurious to the leather as it tends to make it hard and brittle. The best way to treatleather harness, we think, is to polish it first with good common blacking, then coat it with a composition consisting of one pound of tallow, one ounce of beeswax and about one-fourth of an ounce of gum-lac or common resin in powder. Apply it warm, but not too hot.
- G. C., of Conn.—We advise you to send us an advertisement of your needle, for publication in our paper. We cannot consent to do gratuitous advertising for any one.
- F. H. S., of Baltimore.—We cannot attend to the business of introducing your invention to the notice of the Post-office Department. Our time is so completely absorbed that we cannot attend to such negociations.
- G. G., of Md.—Valves of similar character to what you describe have been applied to steam engines. The old four-way cock described in the histories of the steam engine and used more than half a century ago is an example. It is possible, however, that there may be useful novelty in the construction of your valve and that it may be patentable, but of this we cannot judge without drawings.
- F. G. W., of C. E.—We have already given all the information in our possession respecting the composition for making artificial teeth.

Money Received

At the Scientific American Office, on account of Patent Office business, from Wednesday, February 4, to Wednesday February 11, 1863:—

G. W. C., of Ill., \$15; D. C. G., of Pa, \$40; H. B. M., of N.Y., \$10; L. H. O., of N. Y., \$25; J. A. B., of Ohio, \$15; T. J. P., of Ohio, \$25; H. G. H., of Ind., \$15; W. W., of Mich., \$15; P. L. S., of Pa., \$15; E. B., of Iowa, \$20; V. & W., of Iowa, \$20; B. F. A., of Iowa, \$20; G. & P., of N. Y., \$15; L. R., of N. Y., \$28; M. N. K., of Iowa, \$20; V. & W., of Iowa, \$20; J. T., of N. Y., \$15; L. W. T., of N. Y., \$15; G. D. H., of Ill., \$20; G. C. R., of N. Y., \$15; L. W. T., of N. J., \$15; W. T. E., of N. J., \$25; D. C. S., of Conn., \$15; E. K. B., of Conn., \$15; E. E., of Ill., 15; W. P., of Mass., \$15; U. P., of Conn., \$25; K. G., of Ind., \$15; J. M. S., of Cal., \$10; S. C. K., of Mass., \$15; A. H. P., of Iowa, \$15; J. W., of Mass., \$15; A. L., of N. J., \$25; S. M. S., of Iowa, \$15; J. W., of Mass., \$15; A. L., of N. Y., \$40; J. D., of Ill., \$15; G. & M., of N. Y., \$44; I. C., of Ill., \$45; D. M. D., of N. Y., \$20; J. F. R., of I. I., \$15; N. D. B., of N. Y., \$40; N. F. B., of Pa, \$20; F. P. S., of N. Y., \$15; N. D. B., of N. Y., \$25; U. H. S., of Ill., \$25; M. A. J., of Mass, \$15; N. A., of Conn., \$60; G. W. A., of Conn., \$12; P. & P., of Ill., 15; A. B., of Mo., \$25; W. H. W., of Pa., \$15; T. & J., of N. Y., \$25; J. P. E., of Pa., \$25; L. G. K., of Pa., \$15; T. & J., of N. Y., \$25; J. P. E., of Pa., \$25; U. H. W., of R. I., \$20; R. M., of N. Y., \$25; J. P. E., of Mo., \$25; W. H. W., of R. I., \$20; R. M., of N. Y., \$40; J. W. M., of Mich., \$20; J. H., of Ill., \$20; R. G., of N. Y., \$40; J. W. M., of Mich., \$20; J. H., of Ill., \$20; R. G., of N. Y., \$20; E. H., of Cal., \$100; N. D. B., of N. Y., \$20; E. B. R., of N. Y., \$20; E. H., of Conn., \$46.

(Persons having remitted money to this office will please to examine the above list to see that their initials appear in it, and if they have not received an acknowledgment by mail, and their initials are not to be found in this list, they will please notify us immediately, and inform us the amount, and how it was sent, whether by mail or express.

Specifications and drawings and models belonging to parties with the following initials have been forwarded to the Patent Office from Wednesday, February 4, to Wednesday, February 11

L. B., of N. Y.; G. & M., of N. Y.; G. W. A., of Mass.; L. H. O., of N. Y.; W. T. E., of N. J.; J. P. E., of Pa.; T. S., of Conn.; R. S., of N.Y.; R. M., of N. Y.; T. J. P., of Ohio; W. P., of Mass.; A. L., of N. J.; M. N. K., of Iowa; E. D., of Mich.; N. D. B., of N. Y.; G. R. of Ky.; U. P., of Conn.; D. C. G., of Pa.; N. S., of Iowa; A. W. J., of N. Y.; A. P., of N.Y.