

of the shaft, D, in its bearing in upright, C, whereby the guard or fender, shaft, D, and beater, E, may be readily detached when necessary for cleaning purposes.

[This invention consists in the employment or use of a horizontal rotating bowl, in connection with a rotary heater, arranged in a novel way to effect the desired end.]

2,791.—J. D. Potts, of Pittsburgh, Pa., for Improvement in Retracker for Railroad Cars :

I claim, first, The construction of the adjustable track or retractor, inclined, and resting on and secured to a horizontal base, substantially as described to operate in the manner and for the purposes set forth.

Second, I claim the device of points on the under side of this base, whereby the track can be secured in any position desired, by forcing said points into the ties, or other wooden support of the rails, either by bringing on the adjustable track the weight of the car or engine to be put on, or by other means.

Third, In retracters constructed substantially as described, I claim the combination of inclines and levels, whereby when the wheels are brought thereon, they are so moved that the wheel lying entirely outside the rails has its flange first lifted above the rails of the road, and then gradually lowered, so that it touches said rail; and that the wheel, lying between the rails, has its tread raised above the rail of the road, and then gradually lowered on said rail, and by the action of its own gravity, guided by the incline, is forced towards said rail, thus bringing its own and the tread of the opposite wheel into their proper positions on the track, and placing the two wheels as nearly simultaneously as possible on their proper rails.

Fourth, I claim the arrangement whereby the flanges of the wheels are guided by coming against the sides of the retracters to the track on which they are to be placed.

Fifth, I claim the flip which, by projecting over the rail of the road, prevents the flange of the wheel from going between said rail and the adjustable track.

Sixth, I claim the arrangement whereby each of the two adjustable tracks, constituting a set, is arranged so that it can be used for either wheels between the rails, as is required.

Seventh, I claim the devices whereby the incline and base are united, as shown.

2,792.—A. D. Puffer, of Somerville, Mass., for Improvement in Soda Fountains :

I claim passing the pipes which convey the soda and syrups to the draught cock, within the trough, B, where they are cooled by the water from the meliorator, as set forth.

Second, The arrangement within a single draught stand of the compartments, B C and D, all in contiguity with the central cooler communicating with each other by the air passages, H, and closed by tight-fitting plugs, Z, whereby, while the syrups are kept separate they are all ejected by the operation of the same force pump, as set forth.

2,793.—W. F. Quinby, of Stanton, Del., for Improved Apparatus for Navigating the Air :

I claim, first, The employment, in combination with the boat-like car, of oscillating wings, A, D, constructed and applied to operate substantially as and for the purpose set forth.

Second, The combination of the wings, A, D, the screw propeller, C, and the spiral blades, E, F, the whole operating together substantially as and for the purpose specified.

2,794.—J. W. Shipman, of Springfield Center, N. Y., for Improvement in Presses for Hops, Hay, &c. :

I claim the combination of the cam piece and socket, H', and toggles, I, I, with the box, F, hinged rack bar, E, and bars, D D, as shown and described.

[The object of this invention is to obtain a press of simple construction, which may be operated manually and with great facility for compressing substances for baling.]

2,795.—Philander Shaw, of Boston, Mass., for Improvement in Hot-Air Engines :

I claim, first, The combined arrangement in a calorific engine, operating substantially as shown and described, of the cylinders, pistons, reservoir and furnace. The cylinders and their accessories acting together to rotate on one shaft, and the cylinder being located partly within and partly without the reservoir which contains a supply of compressed and heated air, and a furnace which heats the said supply, which, with the gaseous products of combustion, passes through the engine.

Second, The combination of the finished or upper part of the cylinder, with its head, piston and trunk therewith connected, all operating together, substantially as described, and with inlet and outlet valves, and suitable packing round the said trunk, to form an annular air pump.

Third, The chamber or groove around the cylinder, arranged and operating substantially as specified, at or near where the lower part of the piston comes at the termination of its downward movement.

Fourth, The isolated oil trough within the chamber or groove around and within the cylinder, for the specified purpose.

Fifth, The inwardly projecting flange, S, arranged and operating substantially as shown and described.

Sixth, Admitting into the cylinder comparatively pure and cool air, from a reservoir in which it is constantly maintained compressed, at the place and times and by suitable valve gearing, substantially as and for the purposes specified.

2,796.—Suspended.

2,797.—J. H. Shotwell, of Rahway, N. J., for Improved Air-heating Apparatus for Engine Furnaces :

I claim the combination of the steam passages, e, with air passages, f, and water passages, g, combined, arranged and operating in the manner and for the purposes set forth.

[This invention consists in a simple apparatus for heating air for supplying the fires of a steam boiler and furnace, and also for heating air for warming buildings, whereby great economy is effected in the saving of fuel.]

2,798.—Henry Sidle, of Dillsburg, Pa., for Improvement in Churns :

I claim the combination of the fillets or cleats, f, with the dashes, I and G, when the whole are arranged and constructed to operate in the manner and for the purposes described.

2,799.—Joseph Stewart, of San Francisco, Cal., for Improvement in Maneuvering Heavy Guns :

I claim the combination of the shaft, S, and rope or chain, D, with the inclined chassis, A, and gun carriage, B, substantially as described, and for the purposes and uses as set forth.

2,800.—J. A. Strong, of Hyde Park, Vt., for Improved Self-Waiting Table :

I claim providing the self-waiting table, B G D, with a stationary central part, C, adapted to support dishes, lamps, or the like, and supported by a spindle or neck of less diameter serving to guide and retain the annular revolving part, D, substantially as and for the purpose set forth.

2,801.—Rollin White, of Davenport, Iowa, for Improvement in Cartridges :

I claim, first, The construction of the case of a cartridge of two or more pieces of metal movable longitudinally relatively to each other, substantially as and for the purpose specified.

Second, So constructing the cap or pellet, G, containing the percussion priming, and applying the same to the base of the cartridge that it will be caused to operate as a valve to close the vent thereof by the force of the explosion of the charge.

Third, Fitting the percussion cap or pellet, G, to a shoulder, I, formed around the vent in the base of the cartridge case, substantially as described, for the purpose of a firm bearing, to support the said cap or pellet against the blow of the hammer, and so insuring the explosion of the priming.

2,802.—J. W. Whittier, of Cambridge, Mass., for Improvement in Fastening Window Blinds :

I claim the levers, B and D, the notched rest or support, A, and the plate or catch, C, constructed, combined and arranged as and for the purpose above set forth.

2,803.—A. J. Wiley, of South Attleborough, Mass., for an Improvement in Making Joint Wire or Stock for Jewellery :

I claim the making of joint wire or joint stock from one piece metal, as described, and

I claim making up said joint wire or joint stock, substantially in the manner shown and described.

2,804.—I. F. Williams, of New York City, for an Improved Machine for Applying Flocks to Felt Rubber Goods :

I claim, first, The arrangement of the gumming table so as to be an

incline plane, as described, in combination with a self adjustable gum distributor, for the purposes set forth.

Second, I also claim the use of throat, F, and smut collector, G, or equivalent device, in the side case, as a method of preventing masses of falling flock from smutting the cloth, substantially as described.

Third, I also claim the use of swinging arms or beaters, H, in combination with the revolving beaters, H, substantially as described, and for the purposes set forth.

Fourth, I also claim the use of the cloth tension roller, I, in combination with the carrying roller, K, at the back end of the machine, arranged on a line below the revolving beaters, while the roller, I, is arranged on a line above the gumming table, so as to support the cloth on these two points, and thus prevent the blows of the beaters drawing or jerking the cloth over the surface of the gumming table.

Fifth, I also claim the combination of the finishing brush, J, with the revolving beaters, substantially as described.

2,805.—S. D. Woodbury, of Lynn, Mass., for an Improvement in Elastic Carriage Wheels :

I claim rendering a carriage wheel elastic, by making the felly in two concentric parts, F and f, and interposing a belt, or layer, of India rubber, or other elastic material, R, substantially as described, and for the objects specified.

2,806.—G. F. Blake, of Medford, Mass., assignor to Himself and Peter Hubbell, of Charlestown, Mass., for an Improvement in Machines for Pulverizing and Cleaning Clay :

I claim, first, In combination with a machine for cleaning and pulverizing clay, the reciprocating wipe or plunger, W, constructed and operating substantially as described.

Second, The revolving grate, constructed and operating as described.

Third, The stationary fingers, W, constructed, arranged and operating as set forth.

2,807.—S. E. Bolles, of Mattapoisett, Mass., assignor to Himself and Thomas Ellis, of Rochester, Mass., for an Improvement in Carriage-Pole Supporter :

I claim my improved carriage-pole supporter, having its several parts constructed and arranged in relation to each other, and so as to operate together, substantially as shown and described.

2,808.—R. G. Holmes, of Worcester, Mass., assignor to Himself and Jonathan Luther, of the same place, for an Improved Clothes Washer and Wringer :

I claim the arrangement of the guides, J, with the roller slides, H, rollers, G, springs, I, and bar, K, as shown and described.

[This invention relates to an improvement in that class of clothes wringers, in which elastic pressure rollers are employed for exhausting the moisture from the clothes.]

2,809.—William McCord, of Sing Sing, N. Y., and Edmund Maher, of New York City, assignor to William McCord aforesaid, for an Improvement in Repeating Ordnance, &c. :

We claim, first, Embracing and holding the cartridge chambers, O, opposite the gun barrel, B, by means of the oscillating and reciprocating jaws, C' D, constructed, combined, arranged and operating as described.

Second, We claim the employment of the bars, L, and segment of a cog wheel, M, on the oscillating jaw, C', and slide, N, with cogged rack on its lower surface, and a ridge on its upper one, for throwing off from said jaw, C', the exploded cartridge chambers, and admitting loaded ones singly from the hopper, as set forth.

Third, We claim the peculiar form of the opening or space, D3, in the reciprocating jaw piece, D, in connection with the crank, E', by which the necessary stoppage is given the said jaw piece at the end of every reciprocal throw of the same, as fully set forth.

Fourth, We claim covering the nipples of the cartridge chambers with a cap, F, having a headed or valve pin, P', working loosely in an opening immediately opposite the percussion cap on the nipple, substantially in the manner and for the purpose set forth.

2,810.—J. D. Owen, of Carlinville, Ill., assignor to Himself, E. L. Owen and G. W. Barnett, for an Improvement in Post-Hole Excavators :

I claim the combination of the cylinder, A, the follower, D, and the rock, C, when constructed and arranged substantially as described for the purpose of excavating holes for posts.

2,811.—R. H. Peck, of Wolcott, Vt., assignor to Himself and E. Gifford, of Cady's Falls, Vt., for an Improved Churn :

I claim the combination and arrangement of the frame, A, adapted to receive the tub, with its frame work, C, the crank shaft, H, and its gear wheel, G, mounted thereon, the tub, B, the upright revolving dasher, E, with its gear wheel, F, the cross piece, S, and the hanger cap, I, the whole operating together in the manner and for the purpose specified.

2,812.—Francis A. Pratt, of Hartford, Conn., assignor to G. S. Lincoln & Co., of the same place, for an Improvement in Stopping and Changing Motion :

I claim adapting the action of the levers, e, e', to the rim of a pulley, D, in combination with the wedge collar, I, substantially in the manner as and for the purpose described.

2,813.—S. D. Tucker, of Troy, N. Y., assignor to C. S. Sill, of the same place, for an Improvement in Cording Guides for Sewing Machines :

I claim, first, The arrangement of the lower outside guide, F, with the bending shell, A, core, B, and two inside guides, C D, as and for the purpose specified and shown.

Second, The arrangement of the cord-guiding aperture, e, with the bending shell, A, core, B, inside guides, C D, and lower outside guide, F, as and for the purpose specified and shown.

Third, The arrangement of the upper outside guides, G, with the bending shell, A, core, B, and two inside guides, C D, as and for the purpose specified and shown.

Fourth, The arrangement of the core-guide, e, with the bending shell, A, core, B, inside guides, C D, and upper outside guide, G, as and for the purpose specified and shown.

Fifth, The arrangement of the two outside guides, F G, with the folding shell, A, core, B, and two inside guides, C D, as and for the purpose specified and shown.

Sixth, The arrangement of the cord-guiding opening, e, with the bending shell, A, core, B, two inside guides, C D, and two outside guides, F G, substantially as and for the purposes specified and shown.

Seventh, The arrangement of the cloth-passages, h, in the upper side of the folding shell, A, as and for the purpose specified and shown.

RE-ISSUE.

J. S. Smith, of New York City, for an Improvement in Epaulets. Patented April 12, 1859 :

I claim the construction, arrangement and combination of epaulets, substantially as described, the same consisting of the following three elements combined.—

First, A shell, or epaulet proper, with its usual appliance or appliances for its attachment to the coat.

Second, A bullion, or fringe, permanently attached or secured to a frame, plate or what is termed an adjuster, and

Third, A mechanical device for holding the said frame, plate or adjuster within the shell, substantially in the manner and for the purposes set forth.

TO OUR READERS.

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.

INVARIABLE RULE.—It is an established rule of this office to stop sending the paper in the time for which it was pre-paid has expired.

BACK NUMBERS AND VOLUMES OF THE SCIENTIFIC AMERICAN.—

Volumes I, II, and III (bound or unbound) may be had at this office and from all periodical dealers. Price, bound, \$1.50 per volume, by mail, \$2.—which includes postage. Price in sheets, \$1. Every mechanic, inventor or artisan in the United States should have a complete set of this publication for reference. Subscribers should not fail to preserve their numbers for binding.



A. J. B., of Nebraska.—There are no very good works published on the distillation of coal oils. Balliere Bros., of this city have published a work on coal oils, which is the best we know of.

W. H. L., of N. Y.—The *American Railway Times* is published in Boston. The new steamer *Constitution* is now in the transport service of the government, and, we presume, will not go to California for some time.

T. R. B., of Mass.—"Nicholson's Cyclopaedia" is a good work on mechanics and natural philosophy. Ure's Dictionary is a good work on the mechanic arts.

C. H. M., of N. Y.—In relation to joining the Cavendish Society, consult either personally or by letter Balliere Brothers, No 440 Broadway, N. Y.

C. P. W., of N. J.—The bore of a 6-pounder cannon is 3.688 inches. Dahlgren's shell guns are made of 8, 9, and 11 inch bore. Parrott makes his guns of various sizes.

D. B. D., of Ohio.—In reference to the study of mathematics we cannot give you any advice, but would refer you to some one of the many competent teachers in your city.

A. W. H., of C. W.—We do not know where machinery for making wooden bowls can be obtained. We presume that some one who sees this notice will advertise such machinery in this journal.

S. M., of Pa.—We are unable to give you any information in regard to the Saurpetoe backing.

S. B., of Pa.—The suggestion you make in reference to the use of shells filled with noxious gases to operate against forts, is not a new one. This project has been frequently broached—but if you can accomplish anything practically valuable, your best plan will be to lay it before your member of Congress, and obtain his aid in getting you before the proper Department. We cannot afford you any assistance in this respect.

O. P. A., of N. H.—For information about brass belting address the Waterbury Brass Company of this city.

E. H., of —.—Collodion is a solution of gun cotton in a mixture of alcohol and ether. It is composed of the four organic elements, oxygen, hydrogen, nitrogen and carbon, but as it is not a definite chemical compound, the proportions vary. The manipulations are so delicate, and the conditions so essential, that practical instruction is necessary to enable one to make it.

A. E. F., of Pa.—We do not approve of your plan for the general government to take charge of the subject of education. As a general rule the State governments are better adapted for the conduct of local affairs than the Federal government, and it would be impossible for the latter to compel the former to maintain common schools. The laws on this subject in the Northern States could not be enforced without the sanction of public opinion. You might as well pass a law prescribing to people what they should eat.

J. R. P., of Ohio.—We have received no information respecting experiments with rifled howitzers. Gun cotton has been used for exploding shells, and we believe it is very suitable for this purpose.

W. A. S., of Ohio.—There are many manufacturers of acetic acid from low wines in New York and its vicinity. You will find the process of making it described and illustrated on page 247, Vol. 4 (new series) SCIENTIFIC AMERICAN.

M. R. C., of Mass.—Sheet tin has never been manufactured in America. All that we use is imported from England. You will find the process described on page 116 of our present volume.

U. B., of Pa.—You have indeed made the improvement whereby gun carriages may be constructed to suit the tracks of railways and run upon them. It will be very difficult, however, to obtain a change in the construction of gun carriages, whereby their cost will be increased and their construction rendered more complex.

C. I., of Mass.—We could not recommend rotten stone to be applied to the teeth daily to keep them clean; once a week would be sufficient, as its frequent application will tend to injure their enamel. The information desired about the National Hymn we cannot give.

R. G. B., of Pa.—A cannon constructed with successive charge chambers to give the shot successive impulses as it passes along the barrel, is not new. We do not know whether its range is much greater than that of common guns. Mr. Lyman of this city, is the inventor of such a gun.

W. A., of Wis.—Who told you that a ball shot from a rifle held horizontally ascended above the level of the rifle? The elevation of a ball in its flight is just in proportion to the angle of the rifle.

H. B. S., of N. B.—The bright surface resembling enamel on English cutlery, is produced by steel burnishing tools, not powder. We do not know the cost of the "Encyclopedia Britannica."

QUERY.—A correspondent makes the following inquiry, "I wish to know what it is that breaks a salt pan when strong brine is being concentrated in it, and why it is that the salt don't make on the bottom?"

COMPOSITION FOR LEATHER BELTS.—A correspondent says, "Take neat's foot oil and add to it about one-third of its bulk of common resin, and stir it over a moderately warm fire until the resin is dissolved. I have found this composition very superior for lubricating the belts of machines. Several good coats of it should be applied at first."

Money Received

At the Scientific American Office on account of Patent Office business, during one week preceding Wednesday, Dec. 4, 1861:—

O. E. M., of Ill., \$25; B. & C., of Mich., \$25; G. M. N., of Ill., \$15; E. S., of N. Y., \$25; E. & R., of N. Y., \$25; C. W. B., of Conn.

\$22; B. D. R., of Iowa, \$15; P. S. F., of N. Y., \$20; D. & C., of N. Y., \$100; B. T. B., of N. Y., \$40; M. A. F., of N. Y., \$20; A. B. T., of Mich., \$15; C. & G., of Pa., \$15; T. C. H., of N. Y., \$20; B. T., of Ill., \$25; J. D. C., of Conn., \$15; R. P. W., of Ohio, \$25; W. J. S., of Ohio, \$25; C. & P., of Me., \$25; R. H., of Ill., \$15; E. C., of Mass., \$25; A. S., of L. I., \$100; J. D. P., of Iowa, \$10; S. & S., of Me., \$45; O. M. T., of N. Y., \$20; J. T., of N. Y., \$20; J. L. L., of N. Y., \$20; F. C. P., of N. Y., \$20; J. M., of Ill., \$25; C. M. S., of Conn., \$30; E. C. M., of N. Y., \$28; M. T. G., of Ill., \$15; E. B. M., of Conn., \$20; E. J. H., of Vt., \$28; H. K., of Pa., \$25; E. A. W., of Cal., \$35; W. B. F., of Mich., \$15; R. W., of Conn., \$10; H. & H., of Ill., \$25; E. & W., of N. Y., \$15; C. G. L., of N. Y., \$15; C. L. G., of N. Y., \$15; I. F. B., of Conn., \$20; A. M. G., of N. Y., \$50; J. V. H., of Ill., \$20; J. F. B., of Conn., \$25; S. H., of Ind., \$25; A. K., of Ill., \$30; D. H., of N. Y., \$25; J. W. C., of N. J., \$25; P. D., of N. Y., \$25.

Specifications and drawings and models belonging to parties with the following initials have been forwarded to the Patent Office from Nov. 27, to Wednesday, Dec. 4, 1861:—

R. W., of Conn.; H. and H., of Ill.; C. B. T., of Oregon; M. and D., of N. Y.; E. A. W., of Cal.; S. J. S., of N. Y.; P. D., of N. Y.; W. J. S., of O.; C. and P., of Me.; C. and B., of Mich.; A. M., of O.; C. O'H., of Eng.; R. P. W., of O.; E. S., of N. Y.; E. C. of Mass.; E. and R., of N. Y.; S. and S., of Me.; N. P. E., of N. J.; A. K., of Ill.; J. W. C., of Mass.; E. C. M., of N. Y.; B. T., of Ill.; D. H., of N. Y.; J. M., of Ill.; A. B., of N. Y.; J. F. B., of Conn.; C. M. S., of Conn.; S. H. of Ind.; B. T. B., of N. Y.

RATES OF ADVERTISING.

Thirty Cents per line for each and every insertion, payable in advance. To enable all to understand how to calculate the amount they must send when they wish advertisements published, we will explain that ten words average one line. Engravings will not be admitted into our advertising columns; and, as heretofore, the publishers reserve to themselves the right to reject any advertisement they may deem objectionable.

THE CHEAPEST MODE OF INTRODUCING INVENTIONS.

INVENTORS AND CONSTRUCTORS OF NEW AND useful Contrivances or Machines, of whatever kind, can have their Inventions illustrated and described in the columns of the SCIENTIFIC AMERICAN on payment of reasonable charge for the engraving.

No charge is made for the publication, and the cuts are furnished to the party for whom they are executed as soon as they have been used. We wish it understood, however, that no secondhand or poor engravings, such as patentees often get executed by inexperienced artists for printing circulars and handbills from, can be admitted into these pages. We also reserve the right to accept or reject such subjects as are presented for publication. And it is not our desire to receive orders for engraving and publishing any but good Inventions or Machines, and such as do not meet our approbation in this respect, we shall decline to publish.

For further particulars, address—

MUNN & CO., Publishers SCIENTIFIC AMERICAN, New York City

STUDENT'S, DRAFTSMAN'S AND ARTIZAN'S MANUAL. J. Wiley, No. 56 Walker street, New York, publishes a Manual of Elementary Geometrical Drawings—in five divisions: I. Projections. II. Details in Masonry, Wood and Metal. III. Exercises in Shadows and Shading. IV. Isometrical Drawing. V. Drawing of Simple Structures in Stone, Wood and Iron. Designed for inventors, mechanical artizans, draftsmen and pupils in scientific and high schools. By S. Edward Warren, C. E., Professor Polytechnic Institute, Troy, N. Y. 1 vol. 12 mo. 16 pages of plates. Cloth, \$1. Also, by the same author, Descriptive Geometry—general problems from orthographic projections. 1 vol. 8vo. 36 pages of plates. Will be mailed and prepaid on receipt of the price, \$1.

"CITY WOMEN;" OR CURIOUS FEMALE CHARACTERS living in New York.—A singular book, filled with romance, giving the portraits and peculiarities of fascinating ladies, old men's daughters, dashing widows, women in black, widows' daughters, ladies of fashion, adventuresses, bogus ladies, confidence women and others, as mysterious to the outside world. Fancy binding, 200 pages, 50 engravings. Mailed free for \$1. Address M. GAUNTY, No. 3 Walker street, New York. Country agents wanted.

BLADES AND SWORDS.—SOLINGEN BLADES, THE most excellent and reliable in the world, used almost exclusively in the Prussian, English, French and our own armies, made strictly according to the U. S. patterns, for all kinds of swords and sabers required here, constantly received by every steamer, and imported in order. Blades for line officer's swords, with leather scabbards, now in store, 31 inches long, with coat of arms of U. S., eagle, &c., handsomely etched. Guaranteed to cut wrought iron, and to possess all necessary qualities of a reliable blade. All kinds of regulation swords and blades mounted with these blades. For sale by LOUIS WINDMULLER, No. 165 Pearl street, New York, sole agent for the Solingen manufacturers.

MACHINERY.—S. C. HILLS, No. 12 PLATT-STREET, New York, dealer in Steam Engines, Boilers, Planers, Lathes, Chucks, Drills, Pumps; Mortising Tenoning and Sash Machines; Woodworth's and Daniels' Planers, Dick's Punches, Presses and Shears; Cob and Corn Mills; Harrison's Grist Mills; Johnson's Shingle Mills; Belting, Oil, &c.

NEW AND PERMANENT COLORS FOR DYERS AND Printers of Silk, Woolen and Cotton Goods.—The American Agency for fast and brilliant colors, manufactured exclusively by H. and F. Freres & Co., is at No. 26 Broad street, New York, where all orders must be sent. Every package of the permanent colors will have the seal of signature of H. and F. Freres & Co., at Lyons. Any infringement of their European and American patent rights by importers or manufacturers will be punished according to law. HENRY TORSTRICK, No. 26 Broad street, New York.

AT AUCTION, IN INDIANAPOLIS, IND., JANUARY 7, 1862.—Three unpatented improvements of great value, on articles in daily use everywhere. For particulars, enclose two stamps to J. B. LOGAN, Box No. 77, Noblesville, Hamilton Co., Indiana.

FOR THE LONDON FAIR.—GREAT CHANCE FOR A capitalist to buy a British patent, just issued, for a new Life Boat, which may turn under a wave, leaving its inmates undisturbed. Address JOHN T. SCHOLL, Port Washington, Wis.

FOR SALE CHEAP.—A NEW INVENTION. PATENTED for 17 years. Address A. H. TREGO, Lambertville, N. J.

MECHANICS AND INVENTORS, AROUSE!

NOW IS THE TIME TO THINK, TO INVENT AND to develop new inventions.

Now is the time to secure Patents and have them ready for the renewal of business or for traffic.

Now is the time to make arrangements for the manufacture of new and useful articles of all kinds.

Now is the time to secure Patents in England, France, Belgium and other European countries.

Inventors, wake up! Messrs. MUNN & CO., proprietors of the SCIENTIFIC AMERICAN, No. 37 Park-row, N. Y., having a branch office in Washington continue to solicit Patents as usual on the most extensive scale, and in the best manner.

They have acted as attorneys for more than 15,000 patentees, to all of whom they refer.

All who want their patent business done with despatch, and on reasonable terms, should address or apply as above.

Pamphlets of advice to inventors, in different languages, about Patent Laws, &c., furnished free.

MUNN & CO. are permitted to refer to Hon. Judge Mason, Hon. Joseph Holt, Hon. W. D. Bishop, Ex-Commissioners of Patents.

\$25,000.—CAPITALISTS WILL FIND THE greatest opportunity for profitable investment offered during the present century described in an article in No. 23 SCIENTIFIC AMERICAN, present volume. Read it. CHARLES F. EDWARDS, inventor, care C. Fritz, Belmont Hotel, New York. 23 2*

WANTED—TO CORRESPOND WITH A MANUFACTURER of Portable Grinding Mills. Address Box No. 67 Brooklyn New York.

CRYSTAL ILLUMINATING COAL OIL.—THE TERM coal oil, kerosene oil, carbon oil, rock oil, petroleum, oil, &c., are names adopted by the different refiners throughout the country. In the variety of manufacturers, there are many who are working only to a limited extent, and selling the oil almost as it runs from the still, which prevents the product being always uniform. By running our oil into large tanks, and retaining it sufficiently long to have it suitable for use, we are enabled to warrant our Crystal Illuminating Coal Oil, as follows:—1st, perfectly white; 2d, perfectly sweet; 3d, non-explosive; 4th, equal in every respect to any sold; 5th, and most important, it is always uniform. For sale at lowest market rates, by RAYNOLDS, DEVOE & PRATT, IMPORTERS AND MANUFACTURERS OF PAINTS, OILS, VARNISHES AND COLORS, Artists' and Painters' Materials. 106 and 108 Fulton street, NEW YORK. 22 10

THE GENESEE FARMER—ESTABLISHED IN 1831.—The farmer's own paper. The cheapest agricultural paper in the world. One \$20 cents a year. Non-conditional subscription. Published for 30 years in one of the best wheat and fruit regions in America, with correspondents in nearly every State and in Canada, it contains information of great interest and importance to every farmer, gardener and fruit grower. No farmer can afford to be without it. It costs only 50 cents a year, and contains more agricultural and horticultural matter than most of the \$2 weeklies.

Accurate market reports at London, New York, Philadelphia, Rochester, Buffalo, Chicago, Cincinnati and Toronto markets are given in each number. All the leading foreign and American journals are received, and special pains are taken to give the latest and most reliable information in regard to the state of the crops at home and abroad. A copy of the paper sent free to all who wish to examine it. Address, JOSEPH HARRIS, Publisher and Proprietor, Rochester, N. Y. Agents wanted everywhere, to whom the most liberal offers are made.

CENTRIFUGAL SUGAR MACHINES—MESSRS. ASPINWALL & WOOLSEY'S patent.—George B. Hartson, No. 111 East Forty-second street, continues to execute orders, and gives his personal attention to the erection of the above machines, and will also furnish plans and estimates for complete sugar refineries, with all the latest improvements.

WHAT EVERY FARMER, MECHANIC, AMATEUR and well-regulated household wants—one of Parr's Tool Chests, fitted up with a complete assortment of tools, such as saws, planes, hatchets, hammers, chisels, draw knives, rules, files, augurs, &c. Will pay for itself in one year in saving of carpenter's bills. Planters' size contains 92 tools, price \$30 each. Gentlemen's size contains 80 tools, price \$20 each. Youth's size contains 62 tools, price \$13 each. Boys' size contains 44 tools, price \$8 each.

Made of the best cherry and ash exterior, French polished with brass trimmings and finishing handles, and drawers to contain every article. Superior tools sharpened and set ready for use. Packed in cases and shipped to any address on receipt of the price, by the manufacturer and inventor. Also, juvenile tool chests, suitable presents for the holidays, containing 15 tools, price \$4 each; 10 tools, price \$3 each; 8 tools, price \$2 each. GEORGE PARR, Buffalo, New York. 22 11

STEAM TRAP VALVE, FOR DISCHARGING CONDENSED WATER. For descriptive circular or a trial machine, address HOARD & WIGGINS, Providence, R. I. 22 12

GUN FORGING.—PECK'S PATENT DROP PRESS, for gun and other forging. Manufactured by MILO PECK & CO., New Haven, Conn. 19 10*

MANUFACTURERS WANTED FOR BALL'S OHIO Power and Reaper, the most popular, where introduced, and best in the world. Also for his light power, having all the peculiar features of the large one. J. A. SEXTON, Canton, Ohio. 21 4*

BALLARD'S PATENT CLAW JACK SCREWS FOR Various Purposes. For railroads boiler builders, bridge builders, &c., press for beef, pork and other substances. For sale by W. BALLARD, No. 7 Eldridge street, New York. 20 3m

PORTABLE STEAM ENGINES—COMBINING THE maximum of efficiency, durability and economy with the minimum of weight and price. They are widely and favorably known, more than 200 being in use. All warranted satisfactory or no sale. A large stock on hand ready for immediate application. Descriptive circulars sent on application. Address J. C. HOADLEY, Lawrence, Mass. 19 13

IRON PLANERS, LATHES, FOUR SPINDLE DRILLS—Milling Machines, and other Machinist's Tools, of superior quality, on hand and finishing, and for sale low. For description and prices address NEW HAVEN MANUFACTURING COMPANY, New Haven, Conn. 12 6*

CRUDE PARAFFINE WANTED—FOR WHICH THE highest price will be paid for a good article well pressed. Address H. RYDER & CO., Patent Paraffine Candle Manufacturers, New Bedford, Mass. 12 11*

NONPAREIL WASHINGMACHINE.—THIS MACHINE must take precedence of all other machines now in use, being the only one justly entitled to be considered as constructed on correct mechanical principles. Machines and State and county rights for sale by OAKLEY & KEATING, 73 South street, New York. 19 3m

A MESSIEURS LES INVENTEURS—AVIS IMPORTANT. Les Inventeurs non familiers avec la langue Anglaise et qui preferent nous communiquer leurs inventions en Francais, peuvent nous adresser dans leur langue natale. Envoyez nous un dessin et une description concise pour votre examen. Toutes communications seront rigieusement en confidence. MUNN & CO., SCIENTIFIC AMERICAN Office, No. 37 Park-row, New York.

NEW YORK OBSERVER FOR 1862.—IN ASKING

the aid of all who may desire to extend the circulation of the New York Observer, it is proper for us to state distinctly the position it occupies with reference to the present condition of public affairs in our beloved country.

Having always maintained the duty of good citizens in all parts of the land to stand by the Constitution, in its spirit and letter, when that Constitution was assailed and its overthrow attempted, we accordingly at once gave a cordial support to the Government in its patriotic endeavor to assert its lawful authority over the whole land. Believing secession to be rebellion, and when attempted, as in this case, without adequate reasons, to be the highest crime, we hold

1. That the war was forced upon us by the unjustifiable rebellion of the seceding States.

2. That the Government, as the ordinance of God, must put down rebellion and uphold the Constitution in its integrity.

3. That every citizen is bound to support the Government under which he lives, in the struggle to reestablish its authority over the whole country.

4. That the Constitution of the United States is the supreme law of the Government as well as of the people; that the war should be prosecuted solely to uphold the Constitution and strict subordination to its provisions; and the war should be arrested, and peace concluded, just so soon as the people now in revolt will lay down their arms and submit to the Constitution and laws of the land.

The distinctive features of the Observer are, 1. It is printed on a double sheet, so as to make two complete newspapers, one devoted to secular and the other religious matters; and these may be separated so as to make two complete journals, while the price is both as low as either of them is charged for many papers more than either one of the two.

2. It gives every week a complete synopsis of the most interesting events in all the denominations, including those that are called Evangelical and those that are not; as every intelligent Christian wishes to be well informed respecting all of them.

3. It gives a well-digested epitome of the News of the Day, Foreign and Domestic, prepared with great labor and care, so that the reader is sure soon as the people now in revolt will lay down their arms and submit to the Constitution and laws of the land.

The foreign correspondence of the Observer is unrivaled, and has long commanded the admiration of intelligent men.

TERMS FOR NEW SUBSCRIBERS. 1. To each new subscriber paying in advance \$2 50 for one year, we will send the paper and a copy of our Bible Atlas, with five beautiful colored maps.

2. To the person obtaining subscribers we will give \$1 for each new subscriber paying \$2 50 in advance.

3. To any person now a subscriber sending us one new subscriber and \$4 we will send both papers for one year.

Specimen numbers of the New York Observer will be sent gratis to any address that may be forwarded to us for that purpose.

The state of the country renders it important for us and desirable for the churches, that a new and earnest effort be made to extend the principles of good government and sound religious truth into all the families of the land. In every neighborhood there must be some who do not now take a religious newspaper, and who might with a little exertion be induced to subscribe.

SIDNEY E. MORSE, JR., & CO., Editors and Proprietors, 37 Park Row, New York.

SOLID EMERY VULCANITE.—WE ARE NOW MANUFACTURING

wheels of this remarkable substance for cutting, grinding and polishing metals, that will outwear hundreds of the kind commonly used, and will do a much greater amount of work in the same time, and more efficiently. All interested can see them in operation at our warehouse, or circulars describing them will be furnished by mail. NEW YORK BELTING AND PACKING CO., 14 13 Nos. 37 and 38 Park-row, New York.

BRASS LIFT AND FORCE PUMPS, SHIP PUMPS,

Steam Whistles, Gage Cocks, Oil Cups, and every variety Brass-work used by engine builders, manufactured by HAYDEN, SANDERS & CO., 84 Beekman street, New York. 14 13*

GUILD & GARRISON'S CELEBRATED STEAM

Pumps—Adapted to every variety of pumping. The principal styles are the Direct Action, Eccentric Steam Pump, the Improved Balance Wheel Pump, Duplex Vacuum and Steam Pumps, and the Water Propeller, an entirely new invention for pumping large quantities at a light lift. For sale at Nos. 65 and 67 First street, Williamsburgh, and No. 74 Beekman street, New York. 9 11*

PUMPS! PUMPS!! PUMPS!!!—CARY'S IMPROVED

Rotary Force Pump, unrivaled for pumping hot or cold liquids. Manufactured and sold by CARY & BRAINERD, Brockport, N. Y. Also, sold by J. C. CARY, No. 2 Astor House, New York. 14 11*

MACHINE BELTING, STEAM PACKING, ENGINE

MOSE.—The superiority of these articles, manufactured of vulcanized rubber, is established. Every belt will be warranted superior to leather, at one-third less price. The Steam Packing is made in every variety, and warranted to stand 800 degs. of heat. The Hosen even needs oiling, and is warranted to stand any required pressure; together with all varieties of rubber adapted to mechanical purposes. Directions, prices, &c., can be obtained by mail or otherwise at our warehouse. NEW YORK BELTING AND PACKING COMPANY. JOHN H. GHEEVER, Treasurer, Nos. 37 and 38 Park-row New York. 14 13

ALBANY IRON WORKS, TROY, N. Y.—SEMI-STEEL

Bars and Forgings.—We are prepared to furnish for special shapes of this approved metal and without unnecessary delay, having large facilities for production. Among the uses to which this material is now applied, and with great success, we name, rifled cannon for government use; also rifle and musket barrel shapes, locomotive engine tires, locomotive engine axles, straight and crank, car axles, crank pins, plates for locomotive fire box, flue sheets, &c. It is peculiarly adapted for shafting, indeed, for all purposes where strength and rigid qualities are required, tensile strength ranging from 90,000 to 110,000 lbs. to the square inch, nearly double that of the best iron.—Cast-steel forgings up to 1,600 lbs each, likewise furnished. Communications addressed to CORNING, WINSLOW & CO., A. I. Works, Troy, N. Y., will be promptly responded to. Parties at the West can be supplied on addressing their orders to A. S. WINSLOW, Cincinnati, Ohio. 15 6m*

TODD & RAFFERTY, ENGINEERS AND MACHINISTS,

manufacturers of stationary and portable steam engines and boilers. Also, flax, hemp, tow, oakum and rope machinery, machinists' tools, mill gearing, shafting, &c. Iron and brass castings and general machinery merchants. Depot and store—No. 13 Day street, New York, where a general supply of railroad and manufacturers' findings may be had. Works at Paterson, N. J. 22 3m

Zur Beachtung für deutsche Erfinder.

Die Unterzeichneten haben eine Anleihtung, die Erfindern das Verhalten angibt, um sich ihre Patente zu sichern, herausgegeben, und verabsichtigen solche gratis an die Erfinder zu liefern.

Erfinder, welche nicht mit der englischen Sprache bekannt sind, können ihre Mittheilungen in der deutschen Sprache machen. Sollen von Erfindungen mit kurzen, deutlich gezeichneten Beschreibungen beliebe man zu adressiren an

Munn & Co., 37 Part Row, New-York.

Auf der Office wird deutsch abgetroden.

Dasselbst ist zu haben:

Die Patent-Geetze der Vereinigten Staaten,

nebst den Regeln und der Geschäftsernung der Patent-Office und Anleitungen zum Erfinden, um sich Patente zu sichern, in ten Ber. St. sowohl als in Europa. Ferner Anweisung aus den Patent-Geetzen fremder Länder und darauf bezügliche Nachrichten; ebenfalls nützliche Winke für Erfinder und solche, welche patentiren wollen.

Preis 20 Cts., per Post 25 Cts.