

the fixed collars, j, or their equivalents, so as to receive and turn with the ends of the governor arms, and thereby obviate excessive friction and destructive wear, substantially as specified.

2,740.—D. S. Kimball, of Lowell, Mass., for Improvement in Carding Engines:

I claim my improved carding machine, having its parts constructed and made to operate together, in manner substantially as set forth. I also claim the application of the guards, c, or their equivalents, to the sides of the screen, and so as to operate with the main card cylinder, in manner and for the purpose set forth.

2,741.—Thomas Lee, of Newark, N. J., for Improvement in Breech-Loading Firearms:

I claim removing the spent cartridge from its chamber by means of the arms, a, c, plus, e, and barrels, a, in combination with appliances, substantially as shown, for opening and closing the breech, all essentially for the purpose and in the manner set forth.

2,742.—Elisha Matteson, of Brooklyn, N. Y., for Improvement in Projectiles for Firearms:

I claim, first, Making the base of the angular passage, B C C A', of the projectile in its transverse vertical section in the form of a section of a truncated cone, in the manner and for the purpose described. Second, A cartridge formed of the improved projectile, A B C A', and the ordinary charged paper or bag case and a rubber band, in the manner and for the purpose described.

2,743.—Morris Mattson, of Boston, Mass., for Improvement in Enema Syringes:

I claim the construction, consisting of the perforated screw plug, m, on to which the connecting pipe screws, confining the bag between the pipe and the head, s, of the plug, in the manner substantially as described.

2,744.—J. C. and C. N. Mayberry, of White Rock, Ill., for Improvement in Harvesting Machines:

I claim, first, The elevated yoke, E, connecting the linked rear rail, b, of the balance frame, A, and employed in connection with the thrusting tongue, D, rope, F, and pulley, c, d, substantially as and for the purposes set forth.

Second, The endless conveying and elevating apron, K, carried at one end in an inclined frame, L M, jointed midway of its length in standards, g, in the manner and for the purpose shown and explained.

[This invention relates to certain improvements in that class of harvesters in which the team is placed behind the frame of the machine, and an endless apron employed for discharging the cut grain. The object of the invention is to balance the machine more evenly than hitherto, cause the same to work steadier or with less vibration, equalize the draught, render the cutting device capable of being raised and lowered with facility, and enable the discharging apron to be adjusted to suit receiving wagons of different heights.]

2,745.—Wm. Morehouse, of Buffalo, N. Y., for Improvement in Lamps:

I claim the combination of the cylinder or case, D, tube, C, and plates, E, F, arranged relatively with the wick tube, B, and cone or deflector, E, to operate as and for the purpose set forth.

[An engraving of this invention will soon appear in our paper.]

2,746.—Wm. Morehouse, of Buffalo, N. Y., for Improvement in Sash Supporters:

I claim a sash retainer, constructed and operating in the manner and for the purpose set forth.

I claim constructing the bearings, d, of the box, E, plane-surfaced, and of a length greater than the diameter of the axle of the wheel, B, in the manner and for the purpose set forth.

I claim regulating the pressure of the roller, B, upon the sash rail, i, by means of the inclined shouldered brake, H, and tapered set screw, n, in the manner and for the purpose specified.

2,747.—L. H. Olmsted, of Binghamton, N. Y., for Improvement in Oilers:

I claim an oiler, made with a semi-spherical bottom, without seam, a flexible cover and a conducting wire attached to the extremity of the tube, all as shown and described.

[The nature of this invention consists in making the body of an oiler of semi-spherical form, so that no matter in what position it is placed, if left free to act of itself it will assume an upright position. It also consists in making the cover of the oiler flexible instead of the bottom or sides, thus bringing all seams above the oil in the cap. It also consists in an arrangement of conducting wire to prevent waste of oil by running down on the outside of the nozzle every time the oiler is used.]

2,748.—H. J. Phillips, of New York City, for Improvement in Convertible Overcoat and Tent:

I claim a combined tent, overcoat and cape, made as shown and described.

2,749.—Charles Ray, of Boston, Mass., for Improvement in Stirrups:

I claim the application to the sides of stirrups of a revolving surface, however arranged, so as to prevent the feet of the rider from catching in the stirrups, in combination with a step or bottom having a fixed and non-rotating surface, and which bottom shall be rigidly attached to the frame of the stirrup, substantially as described.

2,750.—Addison M. Sawyer, of Fitchburg, Mass., for Improvement in Canister Shot for Ordnance:

I claim a canister shot, constructed in the manner substantially as described.

2,751.—Thomas Schankwiler, of Fayette, N. Y., for Improved Mode of Constructing Horse Powers:

I claim the arrangement and combination of the levers, c, draft rods, f, fulcrum bearing, d, socket, e, and connecting rod, g, substantially in the manner and for the purposes shown and described.

2,752.—W. G. Sherwin, James McFarland and Charles Thieme, of Cincinnati, Ohio, for an Improvement in Breech-Loading Ordnance:

I claim, first, The arrangements of a nipple, H, I, at the bottom of a cartridge chamber, when in position for loading, so that the vent will be automatically closed, substantially as set forth.

Second, In combination with a fuze or fuse, which requires the charge in a vertical position, as explained, the projecting point or points, I, of the nipple, for the purpose of opening the cartridge by its own weight in the act of loading.

Third, The cock or capper, J, adapted to perform the several offices of capping, firing and uncapping the nipple, together with holding the vibratory breech rigidly and exactly to its place while discharging, substantially as set forth.

2,753.—Aaron Shute, of Flushing, N. Y., for an Improvement in Fire-Escapes:

I claim the chain ladder, E, when connected to the building and to the tilting-box, D, and the latter provided with catches or levers, b, b, arranged as described or in any equivalent way, so as to admit of the releasing of the box, D, and the liberation of the ladder, E, when required, and for the purpose set forth.

2,754.—David N. Skillings, of Boston, Mass., assignor to Himself and D. B., Plynt, of Cambridge, Mass., for an Improvement in Portable Houses:

I claim my improved portable house, having its framing constructed substantially as described, and the sides, ends and roof constructed in sections, as set forth, and applied to the framing in the manner specified.

2,755.—Charles Ward, of Salem, Mass., for an Improved Mode of Securing Knobs to Doors, Drawers, &c.:

I claim the described attachment for fastening on knobs or other articles, substantially as specified.

2,756.—S. L. Whetstone, of Cincinnati, Ohio, for an Improvement in Locomotives:

I claim the use in a locomotive of wheels applied to bear against opposite sides of a rail, in combination with wheels running upon top of the same rail, when the side wheels derive suitable pressure from the weight of the locomotive through a system of levers, or their substantial equivalents, as represented.

2,757.—W. A. Wood, of Hoosick Falls, N. Y., for an Improvement in Rakes for Harvesters:

I claim, first, A jointed rake stake that will, in connection with an endless traveling belt, traverse the sides of the platform, and sweep therefrom, and deliver the cut grain, substantially as described.

Second, A claim connecting the jointed rake stake to the outer or grain side of the platform, so that the delivery point for the gavel may be next to, or at, or near the rear of the main frame, substantially as described.

2,758.—George Bradley, of Paterson, N. J., assignor to Jacob S. Rogers, of the same place, for an Improvement in Carding Engines:

I claim, first, Causing a striping cylinder, C, covered with card clothing or equivalent material, which retains the stripings to be automatically operated against the main cylinder, so as to strip it during a certain period and then to be separated therefrom, and to be in turn stripped or cleaned by suitable mechanism, and to deposit the stripings separate from the fibers which are being carded, substantially in the manner and for the purpose described.

Second, Turning the striping cylinder, C, slowly backward, or in the reverse direction to that in which it performs its function of a stripper, and thereby subjecting its surface to the action of the clearing comb, N, or its equivalent, in combination with a motion of the said striping cylinder, C, to and from the main cylinder, substantially as and for the purposes set forth.

2,759.—D. H. Chamberlain, of West Roxbury, Mass., assignor to Himself and Alexander H. Twombly, of Boston, Mass., for an Improvement in Tubes for Surface Condensers:

I claim a surface condenser having its tubes strengthened by rings, as set forth for the purpose specified.

2,760.—W. E. Frost, of Clinton, Mass., assignor to Washburn & Moen, of Worcester, Mass., for an Improvement in Skirt Wire:

I claim a skirt wire, A, provided with an openly braided covering, B, when combined with a suitable size, or glazing, b, as set forth.

[This invention has for its object, first, economy in stock; second, rapidity of construction; third, an improved appearance when in a finished state; fourth, durability, and, fifth, a greater facility than usual in manufacturing the skirts.]

2,761.—John W. Lane, of Newton, N. J., assignor to W. and B. Douglas, of Middletown, Conn., for an Improvement in Pumps:

I claim the water chamber, or reservoir, C, in combination with the induction pipe formed of two parts, B and B' so arranged and applied to the pump to operate as and for the purpose set forth.

2,762.—E. C. Townsend (assignor to Smith & Browner), of New York City, for Improvement in Neck Ties:

I claim a neck tie made of paper, and adapted to the neck of the wearer, substantially in the manner described.

2,763.—Christian Weitman (assignor to himself, H. W. Glynn and A. Hageman), of Independence, Iowa, for Improved Device for Shrinking Tires:

I claim the plate, A, provided with a series of semicircular concentric grooves, b, in combination with the chain, B, and lever, C, all arranged substantially as and for the purpose set forth.

[The object of this invention is to obtain a simple device whereby the tires of wheels may be shrunk so as to fit snugly and tightly to the wheels without the necessity of cutting and re-welding them, the invention admitting of ordinary persons, not mechanics, such as farmers, teamsters, &c., setting the tires of their own vehicles when necessary without the aid of a mechanic.]

2,764.—G. F. Wilson, of Providence, R. I., for Improvement in Army Cooking Wagons:

I claim, first, Combining the above mentioned oven with an army wagon or other vehicle, substantially as described.

Second, The combination of the said oven or baker with either the boiler or broiling apparatus or both, and this combination with the wagon substantially as described, for the purpose of making a portable army cooking stove.

2,765.—Arnold Hamilton, of Broad Brook, Conn., for Improvement in Breech-Loading Firearms:

I claim the combination and arrangement of the sliding-chamber, C, with the conical-shaped chamber of the barrel, A, at its breech and the lever-toothed sector, F, E, substantially as and for the purpose described.

RE-ISSUES.

131.—Wendell Wright, of New York City, for Improvement in Friction Clutches. Patented June 15, 1852:

I claim, first, Operating the friction segments to bring them into and out of contact with the inner periphery of the pulley by means of a connection with a sleeve, E, sliding longitudinally upon the shaft of the pulley, substantially as described.

Second, So supplying the friction segments in combination with the shaft hand pulley that the centrifugal force developed in the segments by the rotary chamber, and by the weight of the outer wall of the stator, the inner periphery of the pulley, and so be productive of friction between the segments and pulley and made instrumental in or accessory to the transmission of rotary motion, substantially as described.

132.—[Re-issues Nos. 127 and 128, of October 29, were cancelled, and Nos. 132 and 133 issued in lieu thereof.] D. G. Littlefield, of Albany, N. Y., for Improvement in Stoves:

I claim an organization which temporarily confines the gases of the supply coal in a coalsupply chamber, then burns the gases of the supply coal, and the gases of the incandescent coal laterally below and outside of the coal supply chamber, and entirely down to the grate and thereafter circulates the spent gases or a portion of them over the top of the coal supply chamber and between it and the outer wall of the stove, and finally discharges them through a flue leading outside the room in which the stove is situated.

133.—D. G. Littlefield, of Albany, N. Y., for Improvement in Stoves. Patented Jan. 24, 1854:

I claim, first, The vertical wedge-shaped passages between the grate bars of the fire pot substantially as described.

Second, The employment of a grated fire pot forming a downward continuation of a coal supply pot, in combination with a gas-consuming chamber or flue between the outer case and the connected fire and coal supply pot, and an externally discharging spent-gas pipe, substantially as and for the purpose set forth.

Third, I claim an illuminated exterior wall, M, in combination with a coal supply chamber and an intermediate gas-consuming chamber, substantially as described.

DESIGNS.

H. G. Thompson (assignor to Hartford Carpet Company), New York City, for 15 patents for Designs for Carpet Patterns.

NOTE.—The number of applicants for patents is steadily augmenting and the Patent Office begins again to assume a busy aspect. Of the above list of patents, THIRTY-THREE of the number were cases, the specifications and drawings of which were prepared at the Scientific American Patent Agency.

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 when the time for which it was pre-paid has expired.

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 PAMPHLET 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 application at this office. Address MUNN & CO., No. 37 Park-row, New York.



C. G., of Mo.—The method practiced in the French cavalry in the Crimea, of securing their horses at night, was to stretch a strong rope along the ground, fastening it securely, and then tying the horse to it by one of his legs.

H. R., of Md.—We shall be happy to attend to the examination of your rejected case at the Patent Office. If the reasons for refusing your claims are unsound, which is not unusual, we can no doubt prosecute them to a successful issue, in spite of the rejection.

G. C., of Mass.—We advise you to have a preliminary examination made of your invention through the Patent Office. This examination is carefully made through our Branch Office, and will generally determine beforehand the novelty of your plan. As a precautionary measure we recommend it to inventors who intend to apply for a patent.

A. D. C., of Mass.—A cement of plaster of Paris should be able to stop the leak in your jar containing the silver solution. Apply a thin cement of the plaster on the inside, so as to fill up the crack.

H. W. C., of N. Y.—A gun has been constructed with a wrought-iron cylinder heated and suspended in a mould and molten cast iron cast around it, so as to form a partly cast and wrought-iron gun.

D. T., of Ohio.—You can obtain carbonic acid gas in large quantities by heating chalk in a clay retort up to a red heat. This is the cheapest mode of obtaining this gas known to us, but a more simple method consists in pouring sulphuric acid among chalk or marble dust. The acid combines with the lime and sets the gas free.

N. Van H., of Pa.—Beechwood boiled in linseed oil for about three minutes and fitted endwise in journal boxes, makes very durable and excellent bearings for the shafting of machinery.

P. S., of Mass.—You wish to know the cheapest solution that you can use for neutralizing sulphuric acid in your blocks of timber. A caustic alkaline lye made by stirring equal weights of common soda and fresh slacked lime in water, then allowing the sediment to settle to the bottom of the vessel, is the cheapest and best that you can use. The clear lye thus made is the well-known "washing fluid," and it is the lye that is employed for making hard soap by boiling oil or grease with it for several hours.

H. G., of N. Y.—The Commissioner of Patents has no power to annul an existing patent. He can order an interference to be declared between an existing patent and a pending application for a patent for the same invention, and then require testimony from each party in order to substantiate the question of priority of invention. If this is proved by the applicant for the pending case, the Commissioner exercises the right to grant the second patent.

H. D. P., of N. Y.—On page 356, Vol. III. (new series) of the SCIENTIFIC AMERICAN, you will find an engraving of President Lincoln's mode of buoying vessels over sand bars. It was patented May 22, 1849, and will expire the same month and day, in 1863, unless he gets a renewal of his patent, which it is not probable he will do. We are not aware whether he is or is not the first President elected from the ranks of inventors.

D. J. C., of Mass.—The back pressure of the atmosphere on exhaust ports of an engine is in proportion to the size of the ports and it is the same relatively as it regards the size of the muzzle of a gun. The larger the area of muzzle in proportion to the bore of the barrel the greater, therefore, should be the recoil of the gun.

A. B. C., of C. W.—We do not know the address of the manufacturers of enameled cloth for carriage top but the article is made in Newark, N. J.

E. D. H. of C. W.—The McNary Knitting Machine Co., No. 25 William street, have patents for knitting stockings complete. Address also, J. B. Aiken, of Manchester, H.

R. W., of Ill.—We are not acquainted with the proportions of the ingredients used in making Arnold's writing fluid. It has never been patented, and is therefore kept secret from the public.

G. P., of N. Y.—Lead one-eighth of an inch thick will resist the pressure of steam, provided the pipe is small enough. The larger the pipe the thicker must the lead be. Iron is better.

W. B., of Iowa.—Make the area of the chimney of your steam boiler equal to that of all the flues, carry it up 40 feet high, make the inside smooth, with a good coat of plaster and you will obtain a good draft. There are no fears of the chimney drawing if it is kept warm and dry.—There is a great variety of opinions among millers respecting the best dress of burr stones. Study those which have been illustrated in the SCIENTIFIC AMERICAN. See page 192, Vol. 4, present series.

L. C. R., of N. J.—The flooring of a basement with a cellar underneath should endure as long as that of any other floor if you maintain a circulation of air underneath. If you char the joists of such flooring by slightly burning them they will last much longer. Hot pitch, or a solution of sulphate of copper, applied to the joists and flooring will also tend to render them more enduring.

Money Received

At the Scientific American Office on account of Patent Office business, during one week preceding Wednesday, Nov. 27, 1861:— A. H. W., of Vt., \$20; E. B., of Conn., \$20; C. W. L., of N. Y., \$20...

Specifications and drawings and models belonging to parties with the following initials have been forwarded to the Patent Office from Nov. 20, to Wednesday, Nov. 27, 1861:— T. M. C., of Mass.; C. W. S., of N. Y.; C. H. B., of Pa.; B. H. H., of N. Y.; A. Y., of Ohio; I. DeH., of Pa.; T. A. G., of Ill.; J. S., of N. Y.; L. D. C., of Mich.; J. B., of Cal.; S. G. B., of Conn.; C. T. V., of Pa.; C. D. J., of France; I. L. H., of R. I. (2 cases); W. W. W., of Ill.; H. C. S., of Me.; A. S. F., of N. Y.; A. J. B., of Mass.; W. B., of N. Y.; A. B. H., of Conn.; J. C. N., of Pa.; W. H. B., of England; E. M. S., of N. Y.; E. R. O., of Ohio; E. E., of Cal.; A. S. F., 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.

MUNN & CO.

Publishers SCIENTIFIC AMERICAN, New York City

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.

\$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*

AS A DAY, TO LADIES OR GENTLEMEN, WHO act as Agents, at home or to travel, for Mrs. Hankins's Pictorial Family Paper and Journal of Fashion; also, for a saleable new book about City Women, or curious Female Characters living in New York. Particulars gratis. Address M. GAUNTT, No. 49 Walker street, New York. 23 1

MACHINE WANTED FOR CUTTING AND POINTING wire for piano pins. Address JOY, COE & CO., No. 1 Spruce street, New York. 1*

WANTED—TO CORRESPOND WITH A MANUFACTURER of Portable Grinding Mills. Address Box No. 87 Brooklyn New York. 23 2*

ONE-HALF OF TWO VALUABLE NAVAL INVENTIONS will be sold very low to an enterprising man. Address Box No. 87 Brooklyn, New York. 1*

\$50 TO \$100 A MONTH.—FOR EMPLOYMENT AS above. Address D. L. MILLIKEN, Brandon, Vt. 23 4*

SECOND HAND MACHINERY, GOOD AS NEW, AND OF THE MOST APPROVED PATTERNS.—1 lathe, turns 12 feet, swings 48 inches; 1 lathe, turns 11 feet, swings 36 inches; 1 lathe, swings 24 inches, turns 9 1/2 feet; 1 lathe, turns 4 1/2 feet, swings 14 inches; 1 chucking and turning lathe, swings 44 inches, turns 4 1/2 feet; 1 back geared upright drill, with adjustable table; 1 iron planer, 9 1/2 feet table, planes 27 inches high; three steam engines, 35, 19, 10-horse power, with governor cut-off. For sale by EDWARD HARRISON, No. 134 Orange street, New Haven, Conn.

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.

RAYNOLDS, DEVOE & PRATT, IMPORTERS AND MANUFACTURERS OF PAINTS, OILS, VARNISHES AND COLORS, Artists' and Painters' Materials.

NEW YORK. 22 10

THE GENESEE FARMER—ESTABLISHED IN 1831.—The farmer's own paper. The cheapest agricultural paper in the world. Only 50 cents a year. Now is the time to subscribe. Published for 30 years in one of the best wheat and fruit regions in America.

Accurate market reports of the London, New York, Philadelphia, Rochester, Buffalo, Chicago, Cincinnati and Toronto markets are given in each number. A 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.

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. 22 6m*

WHAT EVERY FARMER, MECHANIC, AMATEUR and well-regulated household wants.—One of Parry's Tool Chests, fitted up with a complete assortment of tools, such as saws, planes, hammers, chisels, draw shaves, 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.

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

A GREAT STORY, BY A POPULAR AUTHOR.—Will be commenced ON THURSDAY NEXT, IN THE NEW YORK WEEKLY, the greatest story and sketch paper of the age, a new and thrilling historical romance, entitled THE SEXTON OF SAXONY; or THE BRIDE'S BURIAL.

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 Mower and Reaper, the most popular, where introduced, and best in the world. Also for his light mower, having all the peculiar features of the large one. J. A. SEXTON, Canton, Ohio. 21 4*

WARREN'S TURBINE WATERWHEEL (WARREN & WELDON'S patent), manufactured by the American Water Wheel Works, Boston, Mass.—We would say to our patrons and parties in need of Turbine Waterwheels for factories, flouring mills, grist and sawmills, &c., that we are now able to furnish the most powerful, economical, cheap and durable wheel in use. They are constructed upon the most scientific principles, with steel buckets, and are highly finished. Seven hundred are now operating successfully in places where the greatest economy in water is required. Send for pamphlet, with illustrations complete. Address ALONZO WARREN, Agent, 31 Exchange street, Boston, Mass. 18 6*

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 J. M. 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. HADLEY, 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 1f

HARRISON'S GRIST MILLS—20, 30, 36 AND 48 inches diameter, at \$100, \$200, \$300 and \$400, with all the modern improvements. Also, Portable and Stationary Steam Engines, of all sizes, suitable for said mills. Also, Bolters, Elevators, Belting, &c. Apply to S. C. HILLS, No. 12 Platt-street, New York. 1 3w

NONPAREIL WASHING MACHINE.—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. Machine and State and county rights for sale by OAKLEY & KEATING, 73 South street, New York. 15 3m

A MESSIEURS LES INVENTEURS—AVIS IMPORTANT. Les Inventeurs non familiers avec la langue Anglaise et qui préféreraient nous communiquer leurs inventions en Français, peuvent nous adresser dans leur langue maternelle. Envoyez nous un dessin et une description concise pour notre examen. Toutes communications seront reçues 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 cordial support to the Government in its patriotic endeavor to assert its lawful authority over the whole land.

- 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.

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 to religious matters; and these may be separated so as to make two complete journals, while the price for both is no greater than is charged for many papers smaller 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.

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 Printers, 37 Park Row New York.

SOLID EMERY VULCANITE.—WE ARE NOW MANUFACTURING wheels of this remarkable substance for cutting, grinding and polishing metals. They will wear hundreds of times longer than the common 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., Nos. 37 and 38 Park-row, New York. 14 13

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., 34 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 Excelsior 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. 55 and 57 First street, Williamsburgh, and No. 74 Beekman street, New York. GUILD, GARRISON & CO. 8 f

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 1f

MACHINE BELTING, STEAM PACKING, ENGINE HOSE.—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 300 degs. of heat. The Hose never needs diling, 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. CHEEVER, Treasurer, Nos. 37 and 38 Park-row New York. 14 13

ALBANY IRON WORKS, TROY, N. Y.—SEMI-STEEL Plates and Forgings.—We are prepared to furnish forged 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, crank 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, its tensile strength ranging from 90,000 to 115,000 lbs. to the square inch, nearly double that of the best iron. Cast-steel forgings up to 1,500 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. 16 6m*

TODD & RAFFERTY, ENGINEERS AND MACHINISTS, manufacturers of stationary and portable steam engines and boilers, A-30, 34, 40, 44, 48, 52, 56, 60, 64, 68, 72, 76, 80, 84, 88, 92, 96, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140, 144, 148, 152, 156, 160, 164, 168, 172, 176, 180, 184, 188, 192, 196, 200, 204, 208, 212, 216, 220, 224, 228, 232, 236, 240, 244, 248, 252, 256, 260, 264, 268, 272, 276, 280, 284, 288, 292, 296, 300, 304, 308, 312, 316, 320, 324, 328, 332, 336, 340, 344, 348, 352, 356, 360, 364, 368, 372, 376, 380, 384, 388, 392, 396, 400, 404, 408, 412, 416, 420, 424, 428, 432, 436, 440, 444, 448, 452, 456, 460, 464, 468, 472, 476, 480, 484, 488, 492, 496, 500, 504, 508, 512, 516, 520, 524, 528, 532, 536, 540, 544, 548, 552, 556, 560, 564, 568, 572, 576, 580, 584, 588, 592, 596, 600, 604, 608, 612, 616, 620, 624, 628, 632, 636, 640, 644, 648, 652, 656, 660, 664, 668, 672, 676, 680, 684, 688, 692, 696, 700, 704, 708, 712, 716, 720, 724, 728, 732, 736, 740, 744, 748, 752, 756, 760, 764, 768, 772, 776, 780, 784, 788, 792, 796, 800, 804, 808, 812, 816, 820, 824, 828, 832, 836, 840, 844, 848, 852, 856, 860, 864, 868, 872, 876, 880, 884, 888, 892, 896, 900, 904, 908, 912, 916, 920, 924, 928, 932, 936, 940, 944, 948, 952, 956, 960, 964, 968, 972, 976, 980, 984, 988, 992, 996, 1000. Works at Paterson, N. J. 22 3m

Sur Beachtung für deutsche Erfinder. Die Unterzeichneten haben eine Anstalt, die Erfindern das Verfahren anzeigt, um ihre Patente zu sichern, herauszugeben, und veröffentlichen solche gratis an die Erfinder, welche nicht mit der englischen Sprache bekannt sind. Können ihre Entdeckungen in der deutschen Sprache beschreiben. Statten wir Erfindungen mit kurzen, deutlich gefassten Beschreibungen beliebe man zu adressieren an MUNN & Co., 37 Park Row, New York.

Auf der Office wird deutsch gesprochen. Dasselbe ist zu haben: Die Patent-Gesetze der Vereinigten Staaten, nebst den Regeln und der Geschäftsformung der Patent-Office und Anstellungen für den Erfinder, um sich Patente zu sichern, in den Ver. St. sowohl als in Europa. Ferner Auszüge aus den Patent-Gesetzen fremder Länder und darauf bezügliche Nachrichten; ebenfalls nützliche Hülfe für Erfinder und solche, welche patentieren wollen. Preis 20 Cts., per Post 25 Cts.

What a Bee Keeper has Observed.

It is found that a bee hive requires to be ventilated and at the same time to afford protection from the cold. Both of these desiderata are secured in the hive represented in the annexed engravings.

Each wall of the hive is made of two sheets of wire cloth—say one and a half inches apart—with the space between filled with straw. This porous structure admits of the most thorough ventilation, and perfectly protects the bees from the cold. The outer sheet of wire is attached with screws so that it may be readily removed with the straw for the purpose of examining the interior of the hive. The bees are then seen through the meshes of the inner cloth. The inner

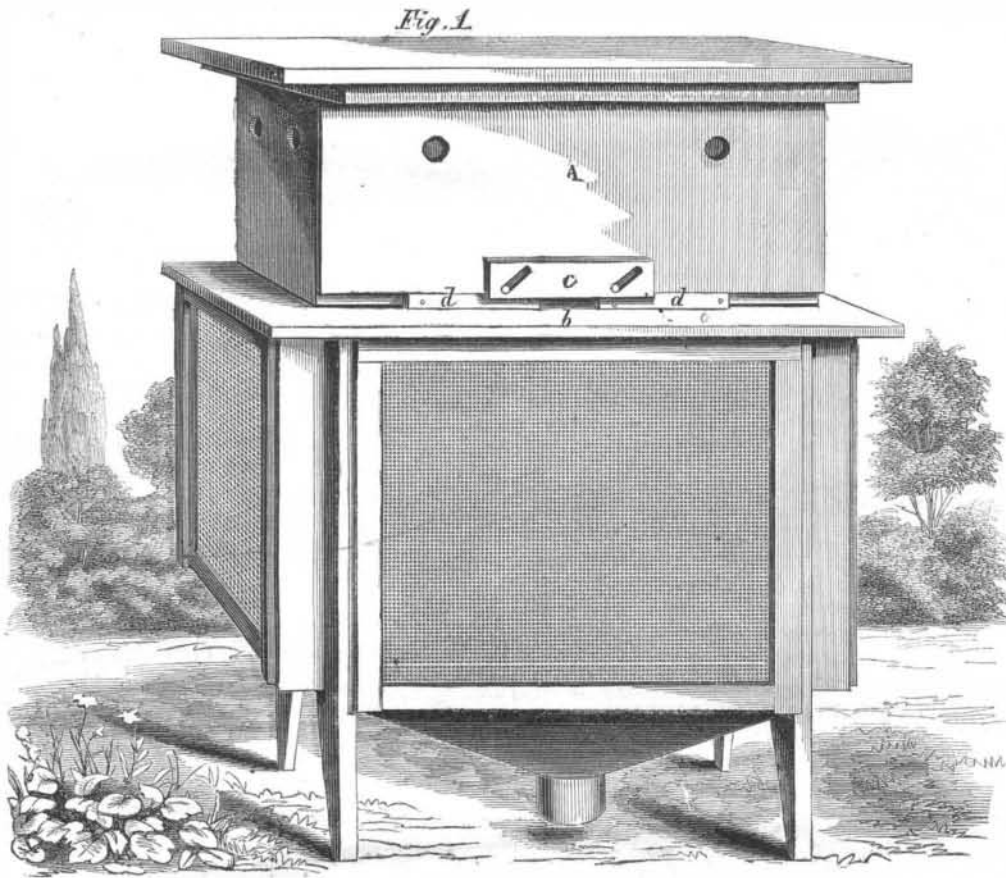
its eggs in some crack or crevice in the hive, it will sometimes attempt to force its way in against the guard at the entrance. I have often seen it caught and torn to pieces by the bees while attempting this forcible entrance.

"Since I have placed my bees in the wire hive they have become so strong and healthy that I do not have much concern about the bee moth. These hives are tight and yet admit of a uniform ventilation, so that if the entrance is entirely closed the bees do not suffer for want of air; neither do they become alarmed, as is often the case in some hives, under the excitement of which they generate heat and soon perish. I have at times seen my bees so completely close the entrance

the hive or it is so poorly made as to admit the entrance of ants. The bees will not spend time to gum it and thus deprive themselves of a good and regular ventilation; indeed, they would remove the gum in order to get more air if by any circumstance they were induced to gum it. This I have tested the past summer.

"I have learned more of the nature and habits of this little insect this past year than I was ever able to do before. My hive admits of a close examination without disturbing the bees, and while they are busy at work in the summer I can take my seat at the side of a hive and observe the operators as long as it seems profitable. I can go from hive to hive and by simply withdrawing the sash containing the straw, look at any side of my hive without arresting their labor. It is not like a glass hive in this respect, for in that the bees must be more or less of their time engaged in fanning their hives to supply themselves with fresh air, and to keep the hive dry. In the wire hive there is another advantage over the glass ones, in the fact that no obstruction is offered to a perfect observation of the interior of the former, which is precluded in the latter from the moisture that gathers on the glass. It is also always clean, and the bees can hold on to it and run over it with ease, which is not the case with glass."

The patent for this invention was granted through the Scientific American Patent Agency October 15, 1861, and further information in relation to it may be obtained by addressing the inventor, A. J. Smith, at Decorah, Iowa.



SMITH'S IMPROVED BEE HIVE.

sheet is also secured in a way to permit it to be taken out for convenience in removing the comb.

The hive is represented in Fig. 1, and the wire frame in Fig. 2. A is the top box that covers the honey boxes, ventilated and chamfered at the bottom to insure a closer fit to the hive, and also to avoid crushing bees in putting it on, as well as to leave no place for the miller to deposit its eggs. The size of the entrance, B, may be regulated by the board, C, which is secured to the front of the top box by screws passing through the inclined slots in the boards, so that by pushing the board endwise it may be varied at will. The opening may be closed entirely by pushing together the blocks, D.

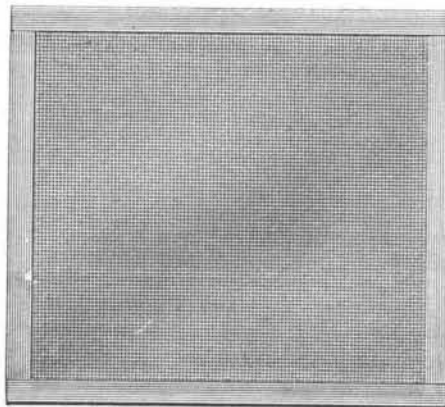
The bottom of the hive is made in the form of an inverted pyramid, with an opening at the center, which is closed by means of a tin cup that may be removed to throw out the dirt produced by the bees.

In relation to this hive the inventor says:—

"Since I have been using my wire hives I have learned so much of the ingenuity and cunning of the honey bee and also of the bee moth, that I am persuaded that all the bees need to protect themselves from the destructive work of the moth, is a good and healthy hive, one that is protected from the exterior, so that the moth can find no place to deposit its eggs and have them hatched by the warmth of the bees or sun, and where the young worm can find no food on which to subsist until it finds its way into the hive. If bees are placed in a poor hive they know it as well as, and sometimes better, than their masters, and very frequently become disgusted and leave for the woods. But if placed in a good hive they will manifest their knowledge of its worth to them by their energetic labor and faithful watch over the entrance at night. The miller finds no admittance there, and if it cannot find a suitable place to deposit

of their hive that it would be impossible for the miller to enter, which they could not do in a common wooden box hive without smothering the inmates. In such a hive they are obliged to keep up a constant fanning all night long as well as during the day, in order to supply their home with fresh air. This labor

Fig. 2



in the wire hive is entirely dispensed with, and the bees being at all times kept dry and healthy, are able to defend themselves against their common enemy, the bee moth.

"Some persons thought that the first thing the bees would do on being placed in the wire hive would be to gum up the meshes, but my experience has convinced me that the bees will gum the wire only where they attach their combs and around the edges where it is attached to the frame, unless the light is admitted to

PROSPECTUS

OF THE
SCIENTIFIC AMERICAN.
THE BEST MECHANICAL PAPER IN THE WORLD.

SEVENTEENTH YEAR.

VOLUME VI.—NEW SERIES.

A new volume of this widely circulated paper commences on the 4th of January. Every number contains sixteen pages of useful information, and from five to ten original engravings of new inventions and discoveries, all of which are prepared expressly for its columns.

The SCIENTIFIC AMERICAN is devoted to the interests of Popular Science, the Mechanic Arts, Manufactures, Inventions, Agriculture, Commerce and the Industrial Pursuits generally, and is valuable and instructive not only in the Workshop and Manufactory, but also in the Household, the Library and the Reading Room.

To the Inventor!

The SCIENTIFIC AMERICAN is indispensable to every inventor, as it not only contains illustrated descriptions of nearly all the best inventions as they come out, but each number contains an Official List of the Claims of all the Patents issued from the United States Patent Office during the week previous; thus giving a correct history of the progress of inventions in this country. We are also receiving, every week, the best scientific journals of Great Britain, France, and Germany; thus placing in our possession all that is transpiring in mechanical science and art in these old countries. We shall continue to transfer to our columns copious extracts from these journals of whatever we may deem of interest to our readers.

Chemists, Architects, Millwrights and Farmers!

The SCIENTIFIC AMERICAN will be found a most useful journal to them. All the new discoveries in the science of chemistry are given in its columns, and the interests of the architect and carpenter are not overlooked; all the new inventions and discoveries appertaining to these pursuits being published from week to week. Useful and practical information pertaining to the interests of millwrights and mill-owners will be found published in the SCIENTIFIC AMERICAN which information they cannot possibly obtain from any other source. Subjects in which planters and farmers are interested will be found discussed in the SCIENTIFIC AMERICAN; most of the improvements in agricultural implements being illustrated in its columns.

TERMS.

To mail subscribers:—Two Dollars a Year, or One Dollar for six months. One Dollar pays for one complete volume of 416 pages; two volumes comprise one year. The volumes commence on the first of JANUARY and JULY.

CLUB RATES.

Five Copies, for Six Months.....	\$4
Ten Copies, for Six Months.....	\$8
Ten Copies, for Twelve Months.....	\$15
Fifteen Copies, for Twelve Months.....	\$22
Twenty Copies, for Twelve Months.....	\$35

For all clubs of Twenty and over, the yearly subscription is only \$1.46. Names can be sent in at different times and from different Post-offices. Specimen copies will be sent gratis to any part of the country.

Western and Canadian money or Post-office stamps taken at par for subscriptions. Canadian subscribers will please to remit 25 cents extra on each year's subscription to pre-pay postage.

MUNN & CO., Publishers,
No. 37 Park-row, New York.

FROM THE STEAM PRESS OF JOHN A. GRAY.