

35,245.—B. Mellinger, S. Mellinger, Jr., and J. Mellinger, of Mount Pleasant, Pa., for Improvement in Horse Rakes :

We claim attaching the thills, C' C', to the axle and rake head, A, by joints, c, c, at the back part of the axle and rake head, in combination with the whiffletree, I, attached to a segment clevis, L, on the axle and rake head, A, by means of a stay rod, K, and rod, J, all arranged and operating as and for the purpose specified.

[The object of this invention is to obtain a horse rake, in which the weight of the driver in his seat, in connection with the pull or draught movement of the horse, is made to pull the rake in a proper working position, and also made to assist in elevating the same when the rake has its load discharged from it, the weight of the driver or operator keeping the rake in an elevated state.]

35,246.—Suspended.

35,247.—Richard Montgomery, of New York City, for Improvement in Apparatus for Using Submarine Guns :

I claim a cylinder or tube-extensible telescopically or by analogous means, to be kept free from water by means of a pump or analogous device, as conducting pipe for the transmission of shot or shell under water.

35,248.—William Murdoch, of Jersey City, N. J., for Improvement in Molds for Castings :

First, I claim the screw, C', in combination with the movable section half mold, C, and the pins and holes, G, as and for the purpose specified.

Second, I claim the arrangement of the elevated or raised edges, e, around the form of casting, b, and gate, a, upon the metallic molds, as and for the purpose set forth.

35,249.—L. E. Osborn, of New Haven, Conn., for Machine for Folding Paper :

I claim the employment or use of a fly, B, provided with a bar or feeder, H, operated automatically through the medium of the frame, C, and fly, B, in combination with the rollers, J J', feeding frame, A', and rollers, Y Y', all arranged for joint operation, as and for the purpose set forth.

Second, I claim the automatically-adjustable tapes, n n, when used in connection with the sheet-conveying tapes, m, and operated substantially as and for the purpose set forth.

Third, I claim the fingers, g, of the rollers, J J', through the medium of the springs, q, on the shafts, R R, the projections, r, on said shafts, the catches, t, on the levers, T, and the lever, W, actuated as shown, to operate the levers, T, and these parts, I claim, applied to all the fingers of any number of pairs of folding rollers that may be employed in the machine.

35,250.—W. K. Osborn, of Chester, N. J., for Improvement in Straw Carriers and Grain Separators :

I claim the separate rake heads, L, when provided with straight and curved teeth, as described, and when combined with crank shafts, as arranged to impart to them an alternate up-and-down motion, substantially as and for the purpose specified.

I also claim, in combination with the above, the shaker, D, when arranged for joint action with the rakes, in the manner substantially as set forth.

I also claim the curved teeth, f', when made adjustable, in the manner and for the purpose described.

35,251.—Alphonse Oudry, of Paris, France, for Improvement in Bridges :

I claim, first, The employment of double parabolic cables or chains, as described and shown.

Second, The employment of two series of rods set obliquely to the plane of the platform, substantially as described and shown.

Third, The employment of rigid tie pieces to overcome the effect of a horizontal force acting laterally upon the four double chains or systems of suspension which would otherwise tend to deform, distort or alter therefrom, together with the means described to replace such tie pieces in the middle of a bridge or viaduct, so as not to impede the circulation, all as described and illustrated.

35,252.—Aaron Palmer, of Brockport, N. Y., for Improvement in Sewing Machines :

I claim the combination of the crimping wheels, L and M, with the adjustable needle-holder, z, and transverse shaft, U, substantially as described, and for the purposes set forth.

35,253.—Almarin B. Paul, of Silver City, Nevada Territory, for Improved Amalgamator and Ore Mill :

I claim a rotating muller for amalgamating pans, formed of a series of curved flat arms, B B B', provided with slots, a, and having curved grooves, a', in their under surfaces or face sides; said arms being attached to an annular hub, A, which also has radial arms, C, connected to it provided with pins, f', and adjustable upright copper plates, D, substantially as described.

[The object of this invention is to obtain a simple and efficient device for pulverizing the pulp of gold and silver bearing quartz, and separating and amalgamating the gold or silver contained therein. The invention has a rotary motion, and is designed to be used in connection with an ordinary amalgamating pan or vessel into which the pulp flows or is placed, the invention operating as a pulverizer or muller, and also as an amalgamator, and performing the work in a very thorough and expeditious manner.]

35,254.—Samuel Peberdy, of Philadelphia, Pa., for Improvement in Knitting-Machine Needles :

I claim a needle with a barbed knitting needle, a shield or guard, h, constructed in the manner described, or any equivalent to the same, so as to guide and retain the thread, in the manner specified.

35,255.—N. C. Perry, of Chester, Conn., for Improvement in Machine for Binding Wire :

I claim, first, The use of the eccentric post, H, in the manner and for the purpose specified and described.

Second, I claim the guide, I, and the clamp, B, in combination with the eccentric post, H, operated in the manner set forth and described.

35,256.—John Pfaff, of Philadelphia, Pa., for Improvement in Tail Pieces for Violins :

I claim combining the tongue, y, with the tail piece of a violin, substantially as and for the purpose set forth.

35,257.—C. B. Porter, of Ann Arbor, Mich., for Improvement in Apparatus for Inhaling Chloroform :

I claim the combination and arrangement of the reservoir, air chamber, air regulator, screen, valve, tube and mouthpiece, substantially as described and for the purpose specified.

35,258.—A. M. Putnam, of Antrim, N. H., for Improvement in Pumps :

I claim the described pump, consisting of the piston, E, cylinders, A and G, chambers, H I J K, with ports, g and h, in combination with the base, C, containing water ways, f, g, with open ports, r, o, and valves, l m s p, arranged and operating substantially as described.

35,259.—Andrew Rawlston, of West Middletown, Pa., for Improvement in Combined Rack and Trough for Feeding Stock :

I claim, first, So combining a rack and trough that the superincumbent pressure of the rack shall hold coarse fodder in place in the trough, in the manner and for the purpose substantially as set forth.

Second, I claim a removable protector, L, adapted to be used upon the rack and trough, or separate therefrom, in the manner and for the purpose substantially as set forth.

Third, I claim, in combination with the rack, H, having partitions, h h', the removable weather protector, L, substantially in the manner and for the purpose set forth.

35,260.—Elisha Rees, of Manassas Station, Va., for Improved Blacksmith's Tongs :

I claim the employment of the handles, A B, the jaws, C D, the bar, E, screw, F, and standard, G, arranged and used together in the manner and for the purpose set forth and described.

35,261.—S. G. Reynolds, of Bristol, R. I., for Improvement in Power-Spading Machines :

I claim the combination of the series of cranks, m, set in a curved or spiral line, and the shafts, b, r, or their equivalents, with the spade-carriers, C, for the purpose of giving the required motion to

the spades, as shown, to enter the ground, pulverize the soil and clear the same, as described.

Second, I claim the yielding spade carriers, operating as set forth, for the purpose specified.

Third, I claim, in combination with a power-spading machine, the pivot, K2, placed within the axis of the bearing wheels and operating as set forth.

Fourth, I claim the combination of a mechanical-spading machine, with a harrow, when the harrow follows the machine, and is operated by cranks, in the manner substantially as set forth and for the purpose specified.

35,262.—J. A. Rhodes, of Providence, R. I., for Improvement in Yarns for Warps :

I claim the use of steam impinging yarns, cloths and other fibrous matter, while immersed in size, paste or other fluid, with which said yarn, cloth, &c., is to be sized or dressed, substantially as described, for the purposes specified.

I also claim the use of steam, impinging the surface of the roller, g, or other device used for immersing or applying the size, paste or other fluid with which the yarn, cloth or other fibrous matter is to be sized or dressed, substantially as described, for the purpose specified.

35,263.—E. S. Ritchie, of Brookline, Mass., for Improvement in Mowing Machines :

I claim the arrangement of a revolving knife, consisting of an endless band of spring steel, its driving pulley, a series of teeth, and a continuous or endless carrier or frame, substantially in manner and so as to operate as specified.

I also claim the arrangement of the grinding wheel, relatively to the endless band knife.

I also claim arranging the band-knife carrier and driving pulley, relatively to the axle and the wheels thereof, and applying the carrier to the axle by means of arms or equivalent devices, so that the carrier may be tilted or moved relatively to the wheels and axle, as specified.

I also claim the combination of the clutch and its operative mechanism, substantially as described, with the driving wheel, the train of gears and the knife carrier, arranged and applied together, as set forth.

35,264.—William Seybold, of McKeesport, Pa., for Improvement in Miners' Lamps :

I claim constructing lamps for burning tallow or other non-fluid fatty substances, with a wick tube of copper or other sufficient conductor of heat, surrounded by a hot-air chamber, for the purpose of melting the tallow or fat around the wick in the lamp, and keeping the tallow melted in the wick itself, substantially in the manner and for the purposes set forth.

35,265.—J. D. Shuler and J. T. Shuler, of Lockport, N. Y., for Improved Means for Manufacturing Baskets :

I claim, first, Constructing baskets over a block or former, in the manner and substantially as shown and described.

Second, The particular arrangement of the guides, B, cord or band, C, and grooves or gage marks, a, a', combined or used in connection with the former, as and for the purpose specified.

35,266.—Emerson Smith, of New Haven Mills, Vt., for Improvement in Shingle Machines :

I claim the particular manner of operating or adjusting the jaws, j, to wit, by means of the pins, e, attached to arms, d, on the shafts, E, and fitted in oblique slots, f, in the upright plates, g, of the slides, h, so which the jaws, j, are secured.

[This invention relates to a shingle machine of that class in which a circular saw is employed for cutting the shingles from the bolt. The object of the invention is to obtain a machine which may be manipulated by two persons, in such a manner as to insure the work being rapidly performed and in a perfect manner, the great loss by the imperfect shingles produced by the automatic shingle machines being avoided and a much simpler device obtained.]

35,267.—O. C. Smith, of Salem, Mass., for Improvement in Piston Packing :

I claim the combination with the head, A, cap, C, and packing rings, G G, of the arc-formed expanding pieces, F F F', the cone, H, and spring, I, the whole arranged, applied and operating substantially as specified.

[This invention consists in the employment of pressing out the packing rings, of a series of arc-formed expanding pieces fitted to the interior of the rings, a hollow cone fitted to the hub of the piston and to the interior of the arc-formed expanding pieces, and a spring coiled round the hub between the cone and the cap or follower of the piston, the whole combined and operating to produce an outward pressure against the interior of the rings, for the purpose of holding them in contact with the cylinder and compensate for wear.]

35,268.—C. A. Strong, of Brooklyn, N. Y., for Improvement in Mode of Building and Coating Earth Fences :

I claim the described mode of building earth fences by means of a mold and coating them, substantially in the manner set forth.

35,269.—George Tainter, of Watertown, Mass., for Improvement in Ventilating Dampers :

I claim the combination of the conical damper, C, and band or ventilating register, B, connected together and applied to the flue or pipe for joint operation, substantially as and for the purpose specified.

[This invention consists in the employment of a hinged conical damper and ventilating register constructed and applied to the flue or pipe of a stove or furnace, in such a manner that the damper will be opened and closed or adjusted simultaneously with the adjustment of the register and a superior ventilating attachment attained.]

35,270.—John Taylor, of Magnolia, Ill., for Improvement in Rakes for Harvesters :

I claim the rake frame provided with slotted arms, II', and the cross bar, K, in combination with the crank shaft, G, and cams, L L', as and for the purposes set forth.

I also claim the rake, J, provided with slotted arms, II', and the cross bar, K, and hinged to the arms, c, c', which are attached to the rock shaft, H, in combination with the crank, G, and cams, L L', when the several parts are arranged for operation in connection with each other and with the concave platform, A, in the manner and for the purpose specified.

35,271.—J. B. Wheeler, of Boston, Mass., for Improvement in Stirring, Conveying and Cooling Grain :

I claim, first, in combination with a perforated bottom through which air is driven by a fan, a reciprocating carriage, which carries a series of conveyers and revolving stirrers that move and turn over the grain as it is being advanced over said perforated bottom, substantially as described.

I also claim, in combination with a reciprocating carriage, the conveyer, G, which has in addition to its forward and backward movement, a rising and falling movement, substantially in the manner and for the purpose set forth.

I also claim, in connection with a reciprocating carriage, a section of conveyers composed of blades, m, that are moved laterally by the cams, j and k, in the manner and for the purpose set forth.

I also claim, in connection with a reciprocating carriage, the hinged conveyer and stirrer, x, that acts while the carriage goes forward and swings up out of the grain when the carriage moves backward, for the purpose substantially as set forth.

35,272.—E. J. White, of Locke, N. Y., for Improvement in Plows :

I claim the plows, M, when attached to vertical sliding standards, L R, which pass loosely through the mounted frame or platform, A, and are connected to adjusting levers, K S, in combination with the vertically adjustable colters, P T, and gage wheel, X, all arranged for joint operation, as and for the purpose set forth.

[This invention relates to an improvement in gang plows. The object of the invention is to obtain a simple and efficient device which may be readily manipulated and adapted to plowing at various depths, be capable of being mounted on wheels, and all so arranged as to insure an easy draught and admit of any number of plans being used at the will of the driver or operator.]

35,273.—E. D. Williams, of Philadelphia, Pa., for Improvement in Waas for Ordnance and other Firearms :

I claim a wad composed of two concave-convex disks of metal provided with ribs, b b, and combined substantially as specified.

35,274.—Isaac Winslow, of Philadelphia, Pa., for Improvement in Preserving Green Corn :

I claim the described process of first removing the corn from the cob, and then preserving the kernels, substantially in the manner and for the purposes set forth.

35,275.—Robert Chadwick and Norman Allen (assignors to said Robert Chadwick), of Hartford, Conn., for Improvement in Machine for Casting Bullets :

We claim the combination of a rotating mold frame, E F, a series of molds, G G, a system of levers, H H, and a cam or cams, the whole applied and arranged to operate substantially as specified.

35,276.—A. L. Fleury, of Philadelphia, and Charles Adams, of Pittsburgh, Pa., assignors to W. J. Cheyney, of Philadelphia, Pa., for Improvement in the Manufacture of Iron and Steel :

We claim, first, Directing a jet of steam into or toward a pipe or passage which forms a communication between the chimney or stack of a puddling furnace, or blast or other furnace, and the fire place or body of ignited fuel within the said furnace, so that said steam may be mixed with a portion of the products of combustion, and the whole propelled along the said passage toward the furnace, for the purpose specified.

Second, Introducing through the hollow bridge of a puddling furnace, hydro-carbon alone, or hydro-carbon mixed with nitrogenous substances, or deoxidizing vapor, for the purpose specified.

35,277.—C. W. Isbell, of New York City, assignor to himself and E. S. Ely, of Providence, R. I., for Improvement in Explosive Projectiles :

I claim, first, The attachment of the hammer of the percussion apparatus to the rear portion or breech of the projectile, substantially as and for the purpose specified.

Second, So constructing and applying the device for attaching and holding back the hammer within the projectile that it is caused to liberate the hammer by the driving forward of the rear portion of the projectile relatively to the front portion thereof, by the act of discharging the projectile from the gun, substantially as specified.

35,278.—J. M. Martin (assignor to himself, Myers Uhl & Co.), of Cleveland, Ohio, for Improvement in Construction of Monuments :

I claim the plate, H, clutches, O P, nut, T, bolt, U, springs, M N, and heads, K K', these several parts being arranged in relation to each other and operating in the manner and for the purpose set forth.

35,279.—Thomas Shaw, of Philadelphia, Pa., assignor to himself and P. S. Justice, for Improved Means of Connecting Metallic Armor Plates for Marine or other Batteries :

I claim the firmly uniting of armor plate by means of fusible metal substantially as described.

35,280.—Alonzo Streeter, of Adrian, Mich., assignor to himself, Thomas Farrar and Amzi Chase, of Wells-ville, Mich., for Improvement in Corn Planters :

I claim, first, The combination and arrangement of hoppers, D, and wheels, B, as described, for the purpose described and set forth.

Second, I claim the combination of the post, K, lever, G, shaft, H, connection, J, spiral springs, 4, connection, O, shoes, Q, and cutters, R, for the purposes set forth and described.

Third, I claim the combination of the levers, 5, with the elbow levers, 2, for the purposes described.

Fourth, I claim the crank, U, windlass, T, rope, V, and sheaves, W, in combination with slide, P, and guides, S, for the purposes set forth and described.

35,281.—John Thomas, of Indianapolis, Ind., assignor to himself and J. M. Lord, of Marion Co., Ind., for Improvement in Rolls for Rolling Piles of Railroad Iron :

I claim the rolls, G and H, constructed and arranged as and for the purposes set forth.

35,282.—L. B. Waterman (assignor to himself and James S. Bangs), of Chicago, Ill., for Improvement in Cultivators :

I claim the arrangement of the adjustable sea, D, in combination with the double-rows, G, draft rods, K K', and graduating bar, I, when operated and attached to the frame work for the uses and purposes described, as substantially set forth.

35,283.—S. R. Wing, of Sandwich, Mass., assignor to L. M. Wing, of West Falmouth, Mass., for Improved Rollers for Wringing Machines :

I claim one or more rollers made of or covered with cork, for the purpose specified, substantially as described.

I also claim the self-adjusting traversing guides for pressing in the edges of the cloth or clothes as they pass in between the rollers, as described.

35,284.—W. H. Elliott, of Plattsburgh, N. Y., for Improvement in Breech-loading Firearms :

I claim so constructing and arranging the sliding breech and hammer, in relation to each other, that when the former is thrown back, the hammer will come to act upon it to throw it forward, but will hold it from moving by a downward pressure, while the cartridge is being placed in the loading chamber, as set forth.

Second, The employment of a toggle joint for moving the sliding breech when that part of said joint which forms a portion of the lever, m, is pivoted to the sliding breech, and when the other part of said joint is pivoted to a fixed point upon the arm, substantially as set forth.

Third, The employment of the pin, s, in combination with a trigger, which is attached to and swings back and forth upon the guard lever, and with a side lock, sere, as specified.

Fourth, The arrangement and operation of the sliding breech and clutch, by which they approach each other and catch the head of the cartridge between them before driving it into the barrel chamber, as specified.

35,285.—W. H. Elliott, of Plattsburgh, N. Y., for Improvement in Operating a Submarine Battery connected with a Boat or other Vessel :

I claim, first, The employment of a magazine which is governed by an arm attached to a vessel by means of a cable, and arranged below the surface of the water, as and for the purpose specified.

Second, The employment of a float, h, in combination with an arm and magazine which are attached to the vessel, substantially as set forth.

Third, The employment of a rudder, t, in combination with an arm attached to a vessel by means of joints, as and for the purpose specified.

Fourth, Arranging the arm, e, with the joints which attach it to the vessel, in such relation to the bulk that the magazine upon its extremity may be dragged through the water at the side of the vessel, when moving from place to place, as shown.

Fifth, The arrangement and combination of the arm, e, joint, f, and extension, g, when employed in connection with a magazine, as set forth.

Sixth, The employment of the hollow vertical shaft, n, in combination with an arm, e, and poles, v, as and for the purpose specified.

RE-ISSUES.

1,306.—Gail Borden, Jr., of Amenia, N. Y., for Improvement in Concentrating and Preserving Sweet Milk. Patented Aug. 19, 1856 :

I claim, first, Concentrating sweet milk by evaporation in vacuo, substantially in the manner and for the purpose set forth.

Second, In the process of concentrating sweet milk in vacuo, I also claim the preparatory scalding of the milk by heating it to a temperature of from 150° to 200° Fah., substantially in the manner and for the purpose described.

1,307.—Daniel Holmes, of Chelsea, Mass., assignee of Joseph Harris, Jr., and Daniel Holmes, of Roxbury, Mass., for Improved Carpet Beating Machine. Patented Feb. 23, 1858 :

I claim, first, The use of the revolving endless flexible beaters, a g g, or their equivalents, when used and operated substantially as described for the purposes specified.

Second, The combination of a set of vibrating flexible whips, or their equivalents, with a set of revolving endless whips, substantially as described for the purpose specified.

Third, The use of an elastic cushion, L, placed in front of the carpet to prevent the shock of the whips, substantially as set forth.

1,308.—Lewis Herring, of Montgomery Co., Pa., assignee of J. Y. Humphrey, of Philadelphia, Pa., for Mica Chimneys for Lamps. Patented July 17, 1860:

I claim the construction and use of lamp chimneys made mainly of mica, when the upper end is contracted and made smaller than the lower or middle portions thereof, substantially in the manner and for the purpose described.

I also claim binding the mica chimney of a lamp with rings of metal, substantially in the manner and for the purpose described.

1,309.—H. D. Snow, of Rochester, N. Y., for Improvement in Governor Valves. Patented Oct. 11, 1859:

I claim constructing steam governors substantially as set forth, so that the downward movement of the balls, when they drop below the point affording a full opening to the valve shall tend to close it.

EXTENSION.

5,583.—Edward Spain, of Philadelphia, Pa., for Improvement in Churns. Patented May 16, 1848:

I claim the saving the dasher the form represented and described, which, while it imparts a compound reciprocating and rotating motion to the dasher, as it is operated upon, thereby also enables a large-sized dasher to be passed whole through a comparatively small-sized square aperture in the side of the barrel, as set forth.

DESIGNS.

1,576.—Henry A. Fowler, of Afton, N. Y., for Design for Hames Fastening.

1,577.—David Foyer, of Dover, N. H., assignor to Abraham Folsom & Son, of Boston, Mass., for Design for a Floor Cloth Pattern.

1,578 and 1,579.—F. S. Otis, of Brooklyn, N. Y., for two Designs for a Clock Case Front.

1,580.—J. R. Wemmett, of New York City, for design for a Spoon.

1,581.—C. J. Woolson, of Cleveland, Ohio, for Design for a Cook Stove.

PATENTS FOR SEVENTEEN YEARS.



The new 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.

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:—

Table listing various patent fees: On filing each caveat \$10, On filing each application for a Patent, except for a design \$15, On issuing each original Patent \$20, etc.

The law abolishes discrimination in fees required of foreigners, excepting reference to such countries as discriminate against citizens of the United States—thus allowing English, French, Belgian, Austrian, Russian, Spanish, and all other foreigners except the Canadians, to enjoy all the privileges of our patent system (except in cases of designs) on the above terms.

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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 reply written corresponding with the facts, free of charge. Address MUNN & CO., No. 37 Park-row, New York.

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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 prepaid. 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.

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We are prepared to undertake the investigation and prosecution of rejected cases, on reasonable terms. The close proximity of our Washington Agency to the Patent Office affords us rare opportunities for the examination and comparison of references, models, drawings, documents, &c. Our success in the prosecution of rejected cases has been very great. The principal portion of our charge is generally left dependent upon the final result.

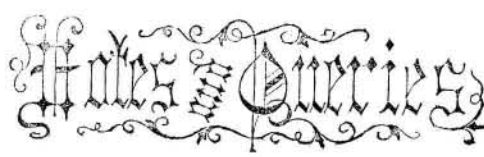
All persons having rejected cases which they desire to have prosecuted are invited to correspond with us on the subject, giving a brief history of the case, including the official letters, &c.

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The assignment of Patents, and agreements between Patentees and manufacturers, carefully prepared and placed upon the records at the Patent Office. Address MUNN & CO., at the Scientific American Patent Agency, No. 37 Park-row, New York.

It would require many columns to detail all the ways in which the Inventor or Patentee may be served at our offices. We cordially invite all who have anything to do with Patent property or inventions to call at our extensive offices, No. 37 Park-row, New York, where any questions regarding the rights of Patentees, will be cheerfully answered.

Communications and remittances by mail, and models by express (prepaid), should be addressed to MUNN & CO., No. 37 Park-row, New York.



C. H. S., of N. H.—The best description of the manufacture of woollen goods that we are acquainted with is that in Ure's Dictionary of Arts and Sciences. It is said that a new edition of the work is about being published.

H. O. N., of N. Y.—Parachutes are made in the form of umbrellas with a hole at the apex to prevent them from oscillating. Experienced aeronauts generally avoid the use of parachutes; accidents so frequently result from their use. The rapidity of the descent will depend on several circumstances, but principally on the size of the parachute in relation to the weight of its burden.

H. A. J., of Me.—Plaster of Paris after being calcined and ground, requires only to be wet with water in order to cause it to harden.

L. C. C., of Mass.—Our aeronauts make their balloons of cotton cloth, and generally cover them with a cement, the composition of which they keep secret. We know of nothing better than linseed oil. Hydrogen gas will make its way in time through any substance, even wrought iron plates.

E. G. S., of N. B.—Overman's work on the manufacture of iron was published by Henry C. Burd of Philadelphia in 1850. Ure's Dictionary of Arts and Sciences contains an elaborate treatise on the subject.

Q. A. S., of Pa.—For information in relation to the improvement on Mr. Parkes's plan of vulcanizing, you can address John A. Greene, 37 Milk street, Boston. Alcohol boils at a temperature of 173°, and water at 212°, so you are in greater danger of explosion with alcohol than with water at a given temperature.

T. S. C., of N. Y.—To transmit 15 horse power with a belt running 25 feet per second, your belt should be 11 1/2 or 12 inches wide. It will take 45,000 pounds of water per minute to give 15-horse power with 11 feet fall. The very best turbines have yielded 87 per cent of the whole power of the water; this would require about 52,000 lbs. per minute for your purpose. Very few wheels, however, yield more than 70 per cent, and with one of this class you would need about 64,000 lbs. per minute. A cubic foot of water weighs 62 1/2 lbs.

R. U., of Mich.—There are a great many roofing compositions. Some patented, and some kept secret. The essential ingredients in most of them are coal tar and asphaltum.

J. W., of Ohio.—A gallon of water weighs 8 pounds, 33,000 pounds per minute gives one horse power for every foot fall, and a good overshot wheel will yield about 70 per cent of the power. Hence it will take 2,107 gallons per minute to give you 5 horse power from a 13-foot overshot wheel.

C. W. B., of Ill.—India rubber may be dissolved in spirits of turpentine or in benzole. You can form it upon a mold by dipping the mold into the solution repeatedly as candles are dipped; allowing the rubber to harden between the immersions. If you use a wooden mold rub the surface with pumice stone before using it.

H. C. F., of N. Y.—If you wish to submit plans of an iron-plated battery to the inspector of the government, address Hon. Gideon Welles, Secretary of the Navy, Washington.

P. H. S., of N. J.—We have a good opinion of Well's Natural Philosophy, and for a new beginner we think it equal to any other. It is issued by Iverson & Plimney of this city.

R. N., of Pa.—Professor Gillespie's work on Surveying and Mahan's Civil Engineering are good works. You can obtain them at Appleton's in this city.

N. P. A., of N. Y.—If your model now in the Patent Office shows the invention you desire to claim you can surrender your original patent and ask for a re-issue. If what you now claim was new when you first applied for the patent you are entitled to the re-issue.

G. A. B., of Prince Edward Island.—You will find rules for making a chime of bells in almost every encyclopaedia, but it requires a thoroughly practical person to tune a chime, just as it requires a practical person to tune a piano forte. It cannot be done by theory.

J. H. C., of Mass.—Canadian balsam dissolved in rectified oil of turpentine is the best clear varnish for maps, drawings, &c. The balsam should be placed in the turpentine and set aside in a moderately warm place, and agitated occasionally for about seven days. A varnish made with pale mastic dissolved in alcohol is used to fix pencil drawings.

W. G. R., of Del.—Every patented article must bear the date of the issue. You were not obliged to put the date on the articles you have sold and delivered previous to the issue, but all that are subsequently sold should have a label attached stating the date of the patent. Or in your case it would be better to stamp it into the wood.

SPECIAL NOTICE—FOREIGN PATENT.—The population of Great Britain, is 30,000,000; of France, 35,000,000; Belgium, 5,000,000, Austria, 40,000,000; Prussia, 20,000,000; and Russia, 60,000,000. Patents may be secured by American citizens in all of these countries. Now is the time, while business is dull at home, to take advantage of these immense foreign fields. Mechanical improvements of all kinds are always in demand in Europe. There will never be a better time than the present to take patents abroad. We have reliable business connections with the principal capitals of Europe. Nearly all of the patents secured in foreign countries by Americans are obtained through our agency. Address Munn & Co., 37 Park row, New York. Circulars about foreign patents furnished free.

Money Received

At the Scientific American Office on account of Patent Office business, during one week preceding Wednesday, May 21 1862:—

- List of names and amounts received: S. B. E., of Conn., \$15; B. and R., of Ill., \$25; J. C. M., of Ill., \$25; J. G. W., of N. Y., \$180; B. R., of Mass., \$40; J. H. R., of Ill., \$25; E. W., of Mass., \$15; N. F. S., of Ill., \$25; H. B. B., of Mass., \$15; T. S., of O., \$20; C. S. L., of Ind., \$15; W. S. M., of Md., \$15; S. W. R., of Mass., \$30; E. B. R., of N. J., \$15; B. F. H., of N. H., \$25; W. E. S., of Wis., \$15; A. S., of N. Y., \$35; T. S., of N. Y., \$45; S. H., of England, \$20; C. W. R., of Mich., \$20; A. K., of N. Y., \$18; A. B., of N. Y., \$49; O. L., of N. Y., \$25; J. R. A., of Pa., \$25; A. M. F., of Conn., \$20; A. S., of N. Y., \$15; J. Q. A. S., of Pa., \$30; B. A. M., of Conn., \$25; H. K., of N. Y., \$15; G. G. L., of Del., \$30; C. B. M., of Ill., \$25; J. G. E., of Pa., \$15; W. M. D., of Mich., \$15; S. W., of Mass., \$15; J. A. McC., of N. Y., \$20; B. R. A., of N. Y., \$10; D. K., of Mich., \$25; J. B., of Ill., \$15; J. T., of N. Y., \$50; W. B. W., of Mass., \$20; J. B. S., of Prussia, \$20; E. H., of Conn., \$45; W. H., of N. Y., \$45; B. R., of N. Y., \$25; E. C., of Ky., \$295; N. F., of N. Y., \$15; U. H. S., of Ill., \$15; J. S. W., of Va., \$25; C. W. B., of Mass., \$35; H. C. F., of Vt., \$25; G. H., of Ill., \$25; G. D., of Mass., \$15; E. T. B., of Mich., \$15; E. J. B., of N. Y., \$10; T. McD., of Pa., \$5; G. S., of N. Y., \$15; W. M., of O., \$30; F. G. S., of Mass., \$15; R. T. C., of Ill., \$15; P. B., of N. J., \$20; W. and P., of O., \$20; W. B. B., of Ill., \$20; G. J., and H. W. R., of N. Y., \$20; A. M., of Mass., \$20; J. M., of N. Y., \$35; L. C. C., of Mich., \$20; J. W. S., of N. J., \$20; J. B. L., of N. Y., \$20; H. W., Sr., of N. J., \$12; A. S. H., of Ill., \$20; P. N. H., of N. J., \$20; S. B. C., of N. Y., \$20; A. M. F., of Conn., \$10.

Specifications and drawings and models belonging to parties with the following initials have been forwarded to the Patent Office from May 11 to Wednesday, May 21, 1862:—

- List of initials: H. W., of N. J.; J. Q. A. S., of Pa.; O. L., of N. Y.; B. R., of N. Y.; H. H. B., of Mass.; G. H., of Ill.; C. B. M., of Mich.; D. K., of Mich.; L. H., of N. Y.; A. M. F., of Conn.; J. S. W., of Va.; J. C. M., of Ill.; B. and R., of Wis.; V. T. G., of Paris; W. M., of O.; T. McD., of Pa.; B. F. H., of N. H.; J. H. R., of Ill.; B. A. M., of Conn.; J. R. A., of Pa.; A. G., of N. Y.; H. C. F., of Vt.; N. F. S., of Ill.; T. S., of O.; A. B., of N. Y. (2 cases).

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.

RECEIPTS.—When money is paid at the office for subscriptions, a receipt for it will always be given; but when subscribers remit their money by mail, they may consider the arrival of the first paper a bona fide acknowledgment of our reception of their funds.

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.

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