ISSUED FROM THE UNITED STATES PATENT OFFICE

FOR THE WEEK ENDING JUNE 4, 1861.

Reported Officially for the Scientific American.

*** Pamphlets giving full particulars of the mode of applying for patents, under the new law which went into force March 4, 1861, specifying size of model required, and much other information useful to inventors, may be had gratis by addressing MUNN & CO., Publishers of the SCIENTIFIC AMERICAN, New York.

1,453.—L. H. Allen, of Amherst, Mass., for an Improvement in Forming Wire Cloth Dish Covers:

I claim, first, The expanding die block, A B, in combination with its handle rod, C, and a suitable spring latch, b, as and for the purposes set forth.

Second, I claim the spring fingers described, composed of a piece, q, of stone, and a metalic shell, h, when said fingers are arranged so as to operate as set forth.

Third, I claim the handle, D, with its latch, e, and spring plate, f, in combination with the notched rod, C, all arranged and combined as and for the purposes set forth.

[This invention relates to a new and useful tool for making woven wire dish covers in a more simple and expeditious manner than hitherto.]

1,454.—Wm. C. Baker, of New York City, for an Improvement in Steam Heating Apparatus:

I claim raising the temperature of the current of air which enters below the manicoil or heating surface above the freezing point before the said current of air reaches the lower portion of the said coil or heating surface, substantially as and for the purposes described.

1,455.—Zadoc M. Beall, of Russellville, Ky., for an Improvement in Plows:

I claim the arrangement of the cutter, C, shank, D, brace, E, plowshare, S, beam, A, and handles, B B, the whole being constructed and combined and operating in the manner and for the purposes shown and explained.

1,456.—H. T. Betts, of Springfield, Mass., for an Improvement in Carriage Steps:

I claim the bent lever, G, and slotted arm, E, or their mechanical equivalents, when operating substantially in the manner and for the purpose set forth.

1,457.—Louis Bonard, of New York City, for an Improvement in Circular Looms for Weaving Hats:

I claim, first, The rotary rings, T and P, constructed with corresponding slots to guide the keys, as set forth, and operating in connection with stationary weft carriers.

Second, I claim the twin wheels, C and D, and notched ring, F, or their equivalents, for elevating the keys, as set forth.

Third, I claim the slide way. U, applied to the wagon, U, and operating in combination with pins, R, and a notched elevating wheel of any suitable form, substantially as and for the purpose set forth.

Fourth, I claim the laying mechanism, A B C D E F G H, constructed and operating substantially as and for the purposes set forth.

Fifth, I claim the form, K, and bell, K, combined and operating substantially as and for the purposes set forth.

Sixth, I claim the india-rubber rings applied to the keys, ●, to afford an elastic attachment for the warp, as set forth.

1,458.—Moses Bucklin, of Grafton, N. H., for an Improvement in Harrows:

I claim the arrangement of the diverging side bars, B B, provided with double winged teeth, in connection with the tail-board, E, and bars, d, the whole being constructed, arranged and used as and for the purpose specified.

1,459.—R. Bullard, of Litchfield, Mich., for an Improvement in Bee Hives:

I claim the combination and arrangement of the comb frames, E, suspended by a single pivot on each side, with the slats, f f, and removable caps, g g, provided with the notches, or series of notches, c c, substantially in the manner and for the purposes shown and described.

I also claim the acute or V-shaped channel, in combination with an astragal face, or its equivalent, substantially as and for the purposes set forth.

1,460.—L. S. Bunnell, of Troy, N. Y., for an Improvement in Pipe Butts:

I claim forming the butt, A, of two parts, b c, connected by a hinge or joint, d, and provided with a catch or fastening, B, substantially as and for the purpose set forth.

[The object of this invention is to enable a person to attach, while the engine is at work, pipes of different sizes, as may be required, to the butt of the hose, without being exposed to the water.]

1,461.—M. C. Burleigh, of Somersworth, N.H., for an Improvement in Molding Stove Griddles:

I claim the employment or use with the pattern, A, of the movable tongue, B, substantially as described, fitted in the pattern, and in such relation with its recesses, a, as to admit of a lip being cast with the griddle, as and for the purpose set forth.

[This invention consists in providing the pattern with a tongue or an adjustable plate, whereby the griddle may be cast without any core boxes, or chills, which are necessary in the ordinary plan of molding, in order to form a means to connect the handle to the griddle, for the purpose of moving the latter when required.]

1,462.—Samuel Cameron, of Pittsburgh, Pa., for an Improved Spike Machine:

I claim the rack, e e e e′ e′, on which the hot bar is thrown as it comes from the reducing rolls, combined and arranged relatively with the shears, D D, substantially as set forth.

1,463.—A. H. Clark, of Fond du Lac, Wis., for an Improvement in Shingle Machines:

I claim, first, The spring, G, with its friction roller, h, and pin, i, in combination with the sliding dog, b, and curved holding bar, E, substantially as and for the purposes described.

Second, The stationary guides, e e, working in the groove, d, in table, B, substantially as described, for keeping the table in a steady position.

Third, Combining with bed, J, pivoted as described, the slotted wheel or cam, K, rod, L, square shaft, K, having cogs, t t, on its end, which are struck by the pins, v, on the table, B, for tilting said bed, as and for the purposes described.

[This invention relates to certain novel improvements on shingle machines which were patented by Kasson Freeman, for obtaining a more perfect and expeditious mode of shifting the bolt to effect the taper of the shingles, and of griping and releasing the bolt from which the shingles are sawed.

1,464.—M. Cain and W. Stelfox, of Austin, Texas, for an Improvement in Cultivators:

We claim the arrangement of diamond plows, f f, the crescent coulter, k, sweep, g, wing hinges, m m, wings, b b, slides, c and d, beam, a, and handles, h, as described, for the purposes set forth.

1,465.—H. M. Collier, of Binghampton, N. Y., for an Improved Washing Machine:

I claim constructing the rotating cylinder, A, of a washing machine of a series of half rolls, a, deeply knurled, and placed at short intervals, and with their smooth surfaces outside, substantially as described, so that the cylinder when in motion offers the least resistance to the water, and that the meshes or openings with their sharp edges cut the water and force the same into the cylinder and against the clothes, facilitating the washing, and insuring a supply and a constant change of the water in the cylinder.

[This invention relates to that class of washing machines in which the washing is effected by placing the clothes into a cylinder, which rotates in a semi-cylindrical tub, the water from the tub being admitted into the cylinder through suitable apertures in its sides, and the action of the water on the clothes to be washed is facilitated by a number of balls, which, together with the clothes, are placed into the cylinder.]

1,466.—F. E. Cook, of Guilford, O., for an Improvement in Machines for Hulling and Cleaning Clover Seed:

I claim the combination of the threshing cylinder, B, hulling cylinder, K, shaking screens, D and M, conveying apron, G, and fan, P Q, arranged and operating in the manner and for the purposes shown and described.

1,467.—Robert Cornelius, of Philadelphia, Pa., for an Improved Method of Lighting Gas by Electricity:

I claim, first, The employment of the electropherus in connection with the metallic wire attached to the gas burner for lighting the gas, substantially as described.

Second, The attaching the metallic handle to the hard rubber plate, the handle terminating in a small metallic button, C, substantially as described.

1,468.—Geo. Dare, of Auburn, N. Y., for an Improved Mode of Hanging Window Sash:

I claim the employment of the jointed or hinged strip, D, secured to and used in connection with the sash, substantially as and for the purpose set forth.

1,469.—A. M. George, of Nashua, N. H., and J. W. Carter, of Brooklyn, N. Y., for an Improved Carpet Cleaner:

We claim, first, The beaters, E, in connection with the rollers, D D, the yielding bars, F, blast tubes, H H, with or without the brush, G, arranged for joint operation substantially as and for the purpose set forth.

Second, The particular construction of the beaters, E, to wit, their bars, j, being made to pass each other at their ends to ensure the action of said bars on the whole surface of the carpet, as described.

Third, The connecting of the yielding bars, F, by cords, m m, one or more, and placing said bars, F, relatively with the beaters, E, as and for the purpose specified.

[The object of this invention is to obtain a machine for cleaning or dusting carpets that will supersede the usual manual process by performing the work with great rapidity, and in a far more effectual or thorough manner.]

1,470.—E. Gore, of Belvidere, Ill., for an Improved Washing Machine:

I claim the oscillating rubbers, substantially and for the purposes set forth.

1,471.—G. B. Griffin, of Madison, Wis., for an Improved Clothes Wringer:

I claim, first, The employment in wringing machines of the spool-shaped guide rollers, E E′, arranged to operate in combination with the soft surface pressure rollers, B C, substantially in the manner and for the purpose set forth.

Second, The employment on clothes wringing machines of the yielding leg or legs, a, adapted to yield in a plane parallel to the axes of the rollers, substantially in the manner and for the purpose set forth.

1,472.—M. Grout & C. Lawton, of Oak Grove, Wis., for an Improvement in Seeding Machines:

We claim the combination of the hopper, A, stocks, G, teeth, H I J, bar, K, rod, c, lever, L, independent seed slides, N N′, gage arms, i, and stirrups, M, constructed, arranged and operating substantially as and for the purposes set forth.

1,473.—J. H. Havens, of Troy, O., for an Improvement in the Frames of Buggy Tops:

I claim the combination of standard, B, with arms, I and H, a longitudinal braced arm with wings, K and J, the whole so constructed and arranged as and for the purposes set forth.

1,474.—A. G. Holcomb, of New York City, for an Improved Electro-Magnet:

I claim, first, Combining with the positive or attractive force of the electro-magnet that of a permanent steel magnet, placed at or near the end of the core or cores of the electro-magnet, opposite to that of the armature.

Second, The use of a permanent steel magnet connected with the rear end of the core or cores of the electro-magnet, and carried round in a position parallel, or nearly so, with the periphery of the helix or helices.

Third, The combination with the armature, C, of the adjustable slide, D, and set screw, d, in the manner and for the purposes set forth.

Fourth, The adjusting screws, F F′, or either of them, when used in the described combination with the stretched wire spring, E, of the armature, for the purpose explained.

1,475.—R. F. Joynes, of Bristol, R. I., for an Improvement in Cultivators:

I claim the construction and arrangement of the inclosing box, A, and cover, B, in the manner and for the purpose set forth.

I also claim the arrangement and combination of the wheels, G G, posts, H H, bearing plates, I I, and nuts, L L, substantially in the manner and for the purpose specified.

I also claim the arrangement of the openings, a a, side plates, b b, and knives, M M M or N N N, substantially as and for the purpose described.

I also claim the arrangement of the double sets of knives, M M M and N N N, in combination with the reversible handle, C, so that the machine may cultivate in both directions, substantially as specified.

1,476.—J. H. Junkins, of Upper Sandusky, Ohio, for an Improvement in the Trusses of Bridges:

I claim, first, The construction of angular arches in bridges, formed by double sections of straight timbers laterally arranged, when the same shall be combined with combination angle blocks, m, substantially as and for the purposes described.

Second, I claim, in combination with the arched truss, as described, the arrangement of rod, e, adjustable brace and straining rods, a a, straining rods, b b, extension arms, r r, suspension stirrups, c c c, braces, H H, iron plate, 12 Vs D D, bolt and nut, 9, thereby forming a continuous, adjustable brace around the whole structure, and firmly binding together all the parts, the whole being arranged substantially as and for the purposes set forth.

Third, I claim the arrangement of braces, H H, iron plate, 12, and bolt with nut, 9, when used in combination with Vs D D, and stirrup, C, for the purpose of distributing the weight by pressure from the center of floor on chords and arches, B B and C C, substantially as described.

1,477.—J. H. Landell, of Newark, N. J., for an Improvement in Tent Fixtures:

I claim, first, The employment of a conical ferule at the top of the tent pole, in combination with the rings, e and i, and chains, f, the whole being constructed, arranged and operated in the manner and for the purpose set forth.

Second, I claim the employment of the ferule, m, at the bottom of the tent pole, in combination with the triped, n r, the whole being constructed, arranged and operated in the manner and for the purpose set forth.

1,478.—C. M. Lane, of Cincinnati, Ohio, for an Improvement in Hinges:

I claim a hinge, constructed as described and shown, combining the strength of the fast joint with the advantages of the loose joint hinges.

1,479.—Horace Maxson, of Hopkinton, R. I., for an Improvement in Rope Walks:

I claim the employment of the carriage, D, containing or supporting two or more tops, or their equivalents, with the ways or rails, C C, and the partitions, E, arranged and operating together substantially in the manner, and so as to obtain the advantages set forth.

1,480.—Oliver Reynolds, of Webster, N. Y., for an Improvement in Beehives:

I claim constructing sections consisting each of a frame of suitable dimensions for a full sized comb, when provided with suspended tubes, d d, arranged transversely of the comb structure in such a manner that the bees may fill the frame with comb wrought around said tubes, and, at the same time, they will be left to form passage ways for the working bees, substantially as set forth.

I also claim the double glass partitions, G, with the slides, I, for surrounding the warm and maintaining greater uniformity of temperature in winter, substantially as described.

I also claim the winter portal, K, or attachment, consisting of a box with screen, L, and tubular orifice, m, constructed and applied substantially as and for the purpose set forth.

I further claim the hanging moth trap, r, constructed substantially in the manner and for the purpose set forth.

1,481.—W. W. Robinson, of Ripon, Wis., for an Improve in Pumps:

I claim the combination with the hollow piston rod, D, and the pump otherwise constructed as described, of the rack, H, sector, J, rock-shaft, J′, pitman, L, crank, M, and crankshaft, N, all arranged as and for the purposes set forth.

[This invention relates to a novel device for operating a double-acting force pump, having a hollow discharging piston.]

1,482.—Decatur Pittman, of Fort Madison, Iowa, for an Improvement in Animal Traps:

I claim the animal trap described, consisting of a board, A, having a hole, B, through it, and the spiked bar, C, spring, D, adjusting screw, E, trigger, I, and lever, J, all combined and arranged as set forth.

[This invention relates to an improved trap for catching and killing large or very small animals. It consists in combining with a board, having a hole through it, a lever, which is arranged across the hole in the board, so that, when the animal enters this hole the lever will be pushed upwards and detach a trigger, which will let fly a spiked beam that is acted upon by a strong spring, and spike the animal securely to the trap.]

1,483.—J. C. Plumer, of Portland, Maine, for an Improvement in Boots and Shoes:

I claim, first, The combination of a sole that is flat or convex exteriorly with an in-sole that is convex at its upper surface, substantially as described.

Second, A shank that is convex at its upper surface, substantially as described.

Third, The combination of an elongated heel with the sole, substantially as described.

Fourth, The combination of the front piece of the upper leather with quarters of unequal length, substantially as described.

1,484.—Van Buren Ryerson, of New York City, for an Improvement in Modes of Condensing Mercury in Amalgamating Vessels:

I claim the process of separating gold or silver from foreign substances by condensing the vapor of mercury in a vessel containing the substances from which the gold or silver are to be separated, substantially as described, so that the mercury shall be diffused and subdivided, and in that condition caused to pass through the charge, the better to take up the particles of metal by amalgamation, as described.

I also claim the application of superheated steam to the charge of mercury and of gold or silver in pulverized or granular foreign substances, substantially as described, for the purpose of vaporizing the charge of mercury so that it may be diffused and sub-divided, and to agitate the entire charge, as described, when this is applied in combination with the process of condensation, substantially as described, that the mercury may be condensed in minute particles, and in that condition pass through the charge the better to take up the particles of gold or silver by amalgamation, as described.

1,485.—L. M. Stearns, of Cardiff, N. Y., for an Improvement in Plows:

I claim combining with clevis, A, constructed and applied to the plow beam, as described, the forked coupling iron, consisting of the arms, h h, pivoted to the clevis by pin, f, and arms, i i, embracing the whiffletree, and pivoted thereto by the pin, k, and the check pin, g, all arranged and operating as described.

[The object of this invention is to attach a whiffletree to a plow clevis in such a manner that the whiffletree will not get under the horse's feet in turning the plow, and also that the team will have a much better purchase on the plow in turning it and keeping the beam steady in heavy plowing, at the same time the improved clevis will admit of all the adjustments desirable, and it will be strong and substantial.]

1,486.—W. H. Towers, of New York City, for an Improved Boot-jack:

I claim the undetachable sliding bar, D, constructed and operating within the socket, in combination with the boot or shoe heel, substantially as described.

1,487.—Isaac Tyson, Jr., of Baltimore, Md., for an Improved Article of Paint:

I claim the new article of manufacture, being a composition suitable for painting, to wit, a composition consisting of black dirt and oil, so mixed as to form a paint, which may be used either with or without the addition of other materials to make it dry or vary its color.

1,488.—G. B. Wiggin and J. H. Hoard, of Providence, R. I., for an Improved Steam Trap:

We claim the combination with the outer case or chamber, A, of a brass or other metal pipe, B, coupling, C, steel or other metal rod, D, lever, E, valve, H, valve spindle guides, I and L, inlet and outlet, O and P, constructed and operating as described for the purpose set forth.

1,489.—W. S. Wilmot, of New York City, for an Improvement in Rakes for Harvesters:

I claim the combination of the pivoted sliding bar, D, and vibratory bar, E, with frame, C, and rake, G, substantially in the manner and for the purposes shown and described.

[This invention relates to an improvement in that class of raking devices for harvesters in which the rake is placed below the platform, the latter being slotted longitudinally, and the rake teeth, when moving in one direction, passing up through the slots, so as to rake the cut grain from the platform, and passing down out of the slots below the platform when moving back to the spot from whence it commences its working movement.

1,490.—Jesse Bartoe (assignor to himself and Zina A. Hemstreth), of East Aurora, N. Y., for an Improvement in Excavators:

I claim so arranging the changing lever, M, catch, Q, and spring, R, with reference to the radial frame, I, including gear wheels, J J′, and scraper, G, that as the scraper is raised it will move the catch in a manner to release its hold upon the lever and allow the heavy end of the lever to drop, and thereby ungear with the driving wheel, for the purposes and substantially as set forth.

I also claim the arrangement of the draught bar, V, in such manner that the line of draught may be changed to correspond with the central line of resistance, in combination with two scrapers arranged side by side, for the purposes and substantially as described.

1,491.—J. A. De Brame (assignor to himself and Benjamin Gurney), of New York City, for an Improvement in Skates:

I claim the button fastening, g, or its equivalent, when secured to a sliding plate, f, which works in a groove in the skate plate, G, and is operated by a pin, h, substantially as and for the purposes set forth.

[This invention relates to an improvement in securing skates to the soles of boots, wherein sliding metallic buttons, which are affixed to the skates, are made to catch into slots in plates which are secured to the bottom of the boot, thereby securing the skate to the boot without straps or clamps, as hitherto.]

1,492.—Wm. M. Fuller (assignor to himself and Geo. W. Chandler), of Chicago, Ill., for an Improvement in Sewing Machines:

I claim, first, The needle slide, b, the pawl, d, and the inclined plane e, substantially as described, arranged for feeding the cloth for the stitches.

Second, The slotted looper, e, and its guide hook, w, combined for the purpose specified.

Third, I also claim a needle with a horizontal shifting motion, as de-

scribed, combined with a slotted looper, as described, for the purpose of making a series of stitches.

1,493.—Isaac Goodspeed, of Norwich, Conn., assignor to A. A. Goodspeed, of Putnam, Conn., and E. S. Stebbins, of Worcester, Mass., for an Improvement in Cork Machines:

I claim, first, The changeable conical patterns, b and c, arranged in the machine substantially as described.

Second, I claim the adjustable screws, r, or their equivalent, for the purposes set forth.

1,494.—T. S. Hudson (assignor to himself and Thomas Leighton), of East Cambridge, Mass., for an Improvement in Barometer Inkstands:

I claim the improved barometric inkstand, as made with the semi-dome or tunnel, C, or the same and a cover, D, arranged and combined with the ink fountain and its neck, and to operate therewith substantially as specified.

1,495.—E. S. Scripture (assignor to himself and Edward White), of New York City, for an Improvement in Axle Collars:

I claim, first, The metallic cellular collar, made in the manner shown, and for the purpose or purposes set forth and described.

Second, I claim the sectional slide packers, made in the manner and for the purpose described.

Third, I also claim the metallic cellular collar, the sectional slide packer, with its flange, in combination with the protecting collar, flange and gasket, when the same shall be used substantially in the manner as shown, and for the purpose or purposes set forth and described.

1,496.—Russell Smith (assignor to S. S. Wheeler), of Danbury, Conn., for an Improvement in Machines for Felting Hat Bodies:

I claim the spring, E, having a curvature concentric, or nearly so, to the barrel, B, in combination with the slides, d d', and rollers, D D' and C C, of a hat felting or sizing machine, when operated by the slide, G, and lever, H, or their equivalents, substantially as shown.

1,497.—Caspar Zwicki (assignor to John Mason, Anthony Snyder and Nicholas Snyder), of Pittsburgh, Pa., for an Improvement in Looms:

I claim, in combination with the cams, F, on the fast-moving shaft, B, for operating the rods, G, the cam, I, on the slow shaft, K, for shifting said rods, substantially as and for the purpose described.

I also claim, in combination with the cams, F, secured to the upper shaft of the loom, the rods, G, levers, H and M, and pickerstaffs, O, when constructed and operated substantially in the manner herein described.

I also claim a three-sided shuttle, the two straight sides of which are in contact with the shuttle race, and bear the relation of an acute angle to each other, while the third or outer side is convex, substantially as and for the purpose described.

I also claim, in combination with a three-sided shuttle, as described, a shuttle race, the two sides of which bear the relation to each other of an acute angle, to conform to the sides of the shuttle and allow the shuttle to run close to or in contact with the reed frame, substantially in the manner described.

RE-ISSUES.

88.—G. D. Baldwin, of New York City, assignee of J. H. Butterworth, of Dover, N. J., for an Improvement in Door Locks. Patented April 11, 1846, and extended

I claim, first, The pawl described, or its equivalent, when combined with a movable talon that can yield to the pressure of the key bit or key to a point beyond its range, in the manner and for the purpose set forth.

Second, I claim the use or employment of one or more sets of rotating cam or disk plates, such as described, having two or more in a set, on the same stem, when so combined with a tumbler or tumblers that lock the main bolt, so that it cannot be withdrawn until all the plates are rotated in such a position relative to the tumbler that the resisting parts can enter the notches in the circular cam plates, pass within the line of their periphery, and so allow the tumbler to withdraw from contact with and resistance to the withdrawal of the bolt.

Third, I claim the use or employment of cam or disk plates, two or more, in a set having the same center or key bolt, when so constructed that one plate only is attached to the key bolt, the next plate being moved by the pin projecting from its surface coming in contact with the ends of the slits described, or in any analagous manner that allows the plate acted upon by the key to move, during a part of its revolution, without engaging and carrying around the next plate.

Fourth, I claim the use or employment of plates such as are described, two or more in a set, when so constructed and arranged as to require the motion of the key to be reversed, in order to set each succeeding plate into such a position that the tumblers can descend into their notches and relieve the bolt.

Fifth, I claim the use of a plurality of cam or disk plates in one set, operated by one key, key bolt or stem, when so constructed that the plates are to be set consecutively by means of the same key, key bolt, stem, or their equivalent, each plate to its own proper position, according to the existing combination, by the aid of the same index, so as to relieve the bolt from the tumbler or other mechanism combined with the plates, that has kept the bolt from being drawn back.

Sixth, I claim the use or employment of a disk or cam plates, such as described, combined by levers or their equivalent with the talon that draws back the bolt, when so arranged that the talon is thereby withdrawn beyond the range of the key bit, and only allowed to come within its range so as to be acted upon by it when the plates have been brought into such a position as to allow that part of the levers that rest upon the edges of the plates to pass into the notches with the line of their periphery.

Seventh, I claim separate pieces of metal, 2 2 2 2, moving upon pins, when used in connection with cam plates, so as to change the point of contact between the plates themselves, and thus diversify, regularly or irregularly, the combination of permutation locks.

89.—Richard Vose, of New York City, for an Improved Car Spring. Patented Jan. 3, 1860:

I claim placing the india-rubber disks of said spring between interposed disks formed of some fibrous material, substantially in the manner and for the purpose set forth.

When the india-rubber disks in a car spring are placed between interposed disks formed of some fibrous material, I also claim combining internally-grooved metallic rings, C C, with the peripheries of said disks, substantially in the manner and for the purpose set forth.

Notes and Queries

H. T., of Pa.—It is stated that Paul Jones hoisted the first American flag ever displayed, on board of the *Alfred*, a brig of 30 guns. This was early in the year 1776. The device on the flag is not positively known, but it is stated to have been a pine tree, with a rattlesnake coiled at its roots. Paul Jones scoured the British coast and bearded the lion in his den in the *Ranger*, a ship carrying only 18 guns.

J. L., of Mass.—To coat small tin buttons with black varnish, introduce them into the varnish with a perforated dipper, lift them out, allow them to drip, and then introduce them into a drying oven. The varnish should be kept quite hot and the buttons separated from each other when placed in the oven to dry. They may require two coats to cover them perfectly.

W. B. G., of N. Y.—The fish-tail propeller is not well adapted for vessels, because it produces a vibratory motion, and this should always be avoided if possible. Such propellers, we believe, have been tried in England, and have not succeeded.

H. E., of Mich.—We are in daily communication with the Patent Office, and the business is going on favorably.

T. H. W., of Ohio.—Gun cotton ignites instantaneously that it is liable to burst the barrels of rifles, otherwise it would be preferable to gunpowder, on account of its greater cleanliness. Use coarse or slow igniting powder for your rifle to avoid the recoil incident to the use of fine-grained powder when the bullet fits snugly in the barrel.

W. S. R., of N. Y.—The density of lead is not increased by hammering and pressure. When perfectly solid, it is but very slightly compressible.

E. W. F., of Pa.—Your plan of a water tank for a target to measure the penetrating power of projectiles seems to us a good one, were it not for the inconvenience of the water running out through the shot holes. There is a far simpler plan than yours for obtaining the varying twist in rifle grooves.

D. H. P., of N. H.—The application of a percussion cap to the point of a bombshell or explosive projectile of any kind is not new. Dr. Read, of Ala., took patents, through this office, in various European countries, in 1856, for a shell which was provided with a cap to produce explosion in coming in contact with a ship or any other obstacle. The government, under Floyd's administration of the War Department, aided Mr. Read in his experiments at West Point, and we presume his shells are in use in the Confederate States.

Money Received

At the Scientific American Office on account of Patent Office business, during one week preceding Wednesday, June 19, 1861:—

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