

baying of hound, or the horn of hunter, you hear the sustained deep breathing of a pair of forge bellows, above which ring the measured clang of sledge and anvil, for his lordship is never idle. When he was Lord Oxmantown, he represented King's county in Parliament, and, when attending his duties in London, would sometimes escape from a dull debate to the forges of Birmingham or the ship-building walls of Blackwall.

#### THE BOILER EXPLOSION ON THE "CHENANGO."

On the 15th instant, while the United States gunboat *Chenango* was steaming down the harbor to Fortress Monroe, the larboard boiler exploded with terrible violence. A large number of persons were killed and several scalded, and, up to the present writing 22 have died of their injuries. Our account is taken from the statements of competent observers, but we were not able to obtain a view of the boiler personally.

The boiler was of the kind now in use in the Navy, and is known as Martin's patent. It was nearly square in form, had vertical water tubes, and was in all respects similar to others of its class. In regard to the circumstances attending the explosion but little is known. This is a stereotyped, most melancholy and unsatisfactory conclusion to arrive at, for boiler explosions have become almost infectious, and seem to rage at times like the epidemics which destroy nations. The point of rupture occurred on the top behind the uptake, and was a simple rending of the boiler shell in two parts from end to end, the fissure following the double-riveted seams, rending one row, so we are informed, but leaving the other by the side of it intact. The opening is from 6 to 10 inches in width.

The sheets that gave way were strongly stayed to the crowns of the furnaces in the usual manner by "crow feet" both on the shell and furnace arches. These crow feet were twelve inches apart and protected that area over every square foot of roof, so to speak, of the boiler. After the explosion some of these braces were found broken. The steam and water space of these boilers is contracted, the height from the crown of the furnaces to the shell is but 36 inches, and to the center of the stop valve on the steam pipe the distance is but 4 feet and 6 inches.

As usual in cases of boiler explosion the most conflicting reports are made respecting the cause of the disaster. The most plausible one appears to be that it was caused by a deficiency of water. This loss of water occurred from priming which, as every engineer knows, is a source of danger to say the least. We have seen the water in a boiler with a much greater amount of steam room than this one go from the top to the bottom and back again half a dozen times in as many minutes, the whole structure shaking and vibrating under the action like a man with the palsy, and it was with the greatest difficulty that the vessel was worked into port. It has been remarked to us that the *Chenango's* engine was stopped and then started again, and immediately after the boiler exploded. If it be reasonable to infer from this that the sudden starting of the machinery caused the water to rise as it always does, upon surfaces already over-heated by reason of the boiler's priming, we have one fact which may account for the disaster. Water rising upon intensely heated plates, however, assumes the spheroidal condition and does not instantly give off vapor, and further, if the furnaces were overheated it is more probable that the crowns would have come down, and a collapse have ensued instead of an explosion. These points will be made clearer when the commission of experts which are to examine the case make their report. At the present writing the accounts of different persons agree in some respects.

The braces or the rods, if we may so call them, which go from the shell to the furnace arches were of the best Ulster iron and 1½ inches in diameter. It was stated to us by indisputable authority that these braces were much reduced in diameter, and that the quality of the iron was most excellent. In addition to these braces the shell was protected by heavy angle irons 12 inches apart. The boilers had been subjected to a cold water pressure of 60 pounds to the square inch, and were deemed perfectly safe.

The testimony before the Coroner's jury developed

nothing satisfactory. A third assistant engineer testified that he tried the gage cocks on one of the boilers, he does not say which, whether the sound or exploded one, and was unable to find any water, and also that the steam gage indicated no pressure. His testimony threw no light on the case, and very little upon the circumstances previous to the accident, as he was not in the engine or fire room, and could not know what transpired. The engineer, Mr. Cahill, is spoken of as a very capable man, and his last words were that he had two gages of water at the time of the accident. Against the dead we say nothing, but if boilers foam (and they generally do when new) it is hard to tell whether there are two or ten cocks of water, and there may be solid water in one instant and a boiler full of scething foam in the next.

The committee appointed by Government to investigate the case, says that there was "a defective vein of iron" which caused the explosion.

It is also possible that this boiler exploded from the breaking of the rods attached to the braces, as the great area or shape of the shell, for the boiler was nearly flat on top, caused an enormous strain upon the shell and angle irons which they were unable to bear, and they consequently gave way. All witnesses agree in stating that the noise of the explosion was but slight; "a low rumbling noise," says the assistant engineer, and we may infer that if the explosion had been the result of a mysterious and uncontrollable force, the ship would have been blown to fragments, as buildings and Western steamers are at times. The boiler was tested at 60 pounds on the square inch, and this may have been a positive injury instead of a benefit, since it tended to weaken the structure and render it less capable of withstanding a working pressure of only three-fourths that amount.

The Morgan Iron Works never spare pains to make their work first-class, and their reputation as steam engine-makers stand "A No. 1." This is the first explosion that has ever happened to any new boiler constructed by them. We shall endeavor to give further particulars in a future number.

#### RECENT AMERICAN PATENT.

**Street-sweeping Machine.**—This invention consists of a machine which, when drawn through the streets of a city or town, will automatically pound and level the surface of said streets and collect the dirt and dust by an oblique adjustable sweeper and brush and by means of scoops and leave it in heaps on the sides of the streets whence the same can be readily removed by the ordinary dirt carts. This invention will also roughen paving stones when so smooth as to endanger the injury of horses by slipping; it is also useful in winter for abrading ice; while in summer a reservoir is also attached to the machine for the purpose of laying the dust. An engraving and description of this machine will shortly appear in our columns. E. Hambruger, of 169 Broadway (room 6), New York city, is the inventor of this machine.

#### Fine Clay as a Dressing for Sores.

Dr. Schreber, of Leipzig, recommends the use of clay as the most "energetic, the most innocent, the most simple, and the most economical of palliative applications to surfaces yielding foul and moist discharges." He moreover considers that it has a specific action in accelerating the cure. Clay softened down in water, and freed from all gritty particles, is laid, layer by layer, over the affected part to the thickness of about a line. If it become dry and fall off, fresh layers are applied to the cleansed surface. The irritating secretion is rapidly absorbed by the clay, and the contact of air prevented. The cure thus goes on rapidly. This clay-ointment has a decisive action in cases of fetid perspiration of the feet or arm-pits. A single layer applied in the morning will destroy all odor in the day. It remains a long time supple, and the pieces which fall off in fine powder produce no inconvenience.

**THE SANITARY FAIR.**—We have made no report of the Sanitary Fair this week, as our first article embodied the principal features of interest to our readers. The exhibitions will close on Saturday and the net receipts will be something over \$1,000,000. At the present writing they reach \$950,000.



ISSUED FROM THE UNITED STATES PATENT-OFFICE

FOR THE WEEK ENDING APRIL 12, 1864.

Reported Officially for the Scientific American.

Pamphlets containing the Patent Laws and full particulars of the mode of applying for Letters Patent, 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.

**42,263.—Manufacture of Shears.**—John Abernethy & Wm. H. White, Woodbury, Conn.:

We claim the manner of making shears substantially as herein described, that is to say by first forming a blank by punching, by secondly shaping that blank by swaging and hammering into a form substantially as shown in the drawings, and lastly by uniting two blanks and blades by a steel bow riveted thereto, all substantially as described.

**42,264.—Plow.**—Samuel Aland, Rome, N. Y.:

I claim the combination of the mortised crop-bar, D, standard, B, brace, C, and lug, G, constructed and arranged to operate as and for the purpose herein set forth.

**42,265.—New Manufacture from Hemp, Flax, &c.**—Stephen M. Allen, Woburn, Mass.:

I claim, first, As a new article of manufacture, a cloth, felt or yarn, made from long-stapled fiber prepared in the manner herein set forth.

Second, I claim as a new article of manufacture cloth, felt, yarn, &c. made from long-stapled fiber prepared in the manner described and mixed with cotton or wool as set forth.

Third, I claim as a new article of manufacture cloth, felt, and yarn made from long-stapled fiber prepared as described, with or without admixture of cotton or wool, and dyed or printed as herein set forth.

**42,266.—Lamp.**—James R. Baker, Kendallville, Ind.:

I claim, first, So combining a wick-tube with a lamp-burner, that it may be turned outward by its thumb lever, H, G, for the purpose of trimming the wick, or be removed therefrom for the purpose of supplying a new wick, substantially as set forth.

Second, I claim so applying a wick-tube to a lamp burner, that the flame of the lamp, when the wick-tube is turned outward for the purpose of trimming the wick, will be in a direction opposite to the oil supply openings of the lamp, and with an interposing portion of the lamp-burner between the plane and the oil-supply openings, substantially as described.

Third, I claim the foot-piece, I, in combination with the wick-tube, I, for the purpose set forth.

Fourth, I claim the detail, I, in combination with the wick-tube, I, and foot-piece, I, for the purpose set forth.

Fifth, I claim the tubular portion, M, of the sliding half-tube, N, in combination with the wick-tube, I, substantially as and for the purpose set forth.

Sixth, I claim in combination with the collar, D, having opening, e, therein, I claim the sliding half-tube, N, with opening, e', therein, said parts being arranged and operating substantially in the manner and for the purpose set forth.

**42,267.—Self-acting Mule for Spinning.**—Harvey S. Bartlett, Smithfield, R. I.:

I claim, first, The mode of operation substantially as described by means of which a disconnection is effected at stated intervals between the cam-bearing shaft, B, in a self-operating mule and the source of motion derived from the pulley, A', when the mechanism to effect the same is combined and arranged in the manner substantially as specified.

Second, The combination of the spring, D, and the clutch, W', with the mechanism by which the position of the lever, E, with its stop, F, is shifted for the purpose of restoring the connection of the cam bearing shaft, B, with the main source of motion, substantially as shown and described.

**42,268.—Packing Projectiles for Rifled Ordnance.**—Wm. Boekel, Philadelphia, Pa.:

I claim, first, The described employment of a band, A, when embodied with the soft metal packing and drawn upon the body of the projectile, substantially in the manner and for the purpose specified.

I also claim the use of a cup, B, of any form equivalent to the one herein shown, when combined with the soft metal packing in the described manner and bearing upon the back end of the projectile, substantially as and for the purpose set forth.

**42,269.—Lamp.**—Wm. G. A. Bonwill, Dover, Del.:

I claim, first, The collar, C C', constructed as described with a series of apertures extending completely around it, variable in capacity by the action of the register and adapted to admit a supply of cool air to the interior of the chimney immediately above the cone or deflector, from the medium outside (without first passing into the cup or burner), to prevent the chimney from being cracked or broken by sudden heat.

Second, I claim the specific combination and arrangement of the spring, F, spur wheels, f, shaft, F', and slotted wick-tube, E, when the said spring is firmly secured by its lower part, f', to the floor of the shell, A, is formed with a double coil, f, f', and rises in two standards, f, f', embracing the shaft, F', in close proximity with the respective spur wheels, f, f', as herein described.

**42,270.—Coating and protecting the Silvering of Mirrors.**—Diodor Briansky, St. Petersburg, Russia. Patented in Belgium, June 27, 1863:

I claim the application in successive layers, to the silvered surfaces of mirrors in manner and for the purpose substantially as herein set forth, of plastic protective compounds combining, like those above enumerated, the essential qualities of elasticity, tenacity, impermeability, insolubility, and adhesiveness.

**42,271.—Corn-sheller.**—Jacob Brinkerhoff, Auburn, N. Y.:

I claim the cylinder, E, the ties, L and X, the regulators, H, the bed-piece, O, the spiral springs, A, the fans, S, and the platform, P, the whole being constructed, combined and arranged in the manner and for the purpose substantially as herein set forth.

**42,272.—Tube Gear of Steam Engines.**—Henry T. Carter, Portland, Maine:

I claim the arrangement of the cylinder, the fly-wheel shaft, and the rotary valve in manner so that the valve or its spindle shall be affixed to, and so as to be rotated with and by the said shaft, while each shaft may be in revolution.

**42,273.—Coal-sifter.**—Otis N. Chase, Boston, Mass.:

I claim, first, The rocking sieve, C, when attached to frame, B, with its sides curved in the line of the motion of the sieve, substantially as described.

Second, I claim the sieve, C, in combination with the inclined planes, f, f, and the slide, D, substantially as described for the purpose set forth.

Third, I claim the handle, E, when attached to the sieve, C, and fitted for the double purpose described, substantially as and for the purpose set forth.

**42,274.—Numbering Machine.**—John C. Clapp, South Boston, Mass.:

I claim, first, The pawl, J, constructed with the steps, a b c d, in

Combination with the notches, Z, in the numbering wheels, substantially as set forth and for the purpose described.

Second, The friction plates, Y, in combination with the rod, Q, or its equivalent by means of which the numbering wheels are kept apart and prevented from revolving, except when acted upon by the pawl, J, substantially as described.

Third, The fender-arm, M, by means of which the pawl, J, is made to ride clear from the figures in moving backward, substantially as set forth.

Fourth, The employment of the nut, S, and elastic washer, R, for regulating the friction between the plates, Y, and the numbering wheels, in such a manner as to preserve a true register of the figures, substantially as described.

Fifth, The rod, Q, to prevent the friction plates, Y, from moving with the numbering wheels, substantially as described.

Sixth, The combination of the arms, G, G', frame, E, E', pawl, J, arms, C, C', and spring, L, substantially as and for the purpose described.

42,275.—Churn.—Giles Cramton, Marshall, Mich.:

I claim the employment of the partially cogged wheel, W, in combination with the pinions, P1 P2, and shaft, E, of any churn dasher, connected, arranged, and operated substantially as and for the purposes herein specified.

42,276.—Saw-mill.—Jesse J. Deputy, Peoria, Ill.:

I claim, first, Combining and arranging the frame, C, or its equivalent at one end with the curved surface, c, and bar, O; and at the other end with the rack, G, and pinion, I, when arranged to operate substantially in the manner and for the purpose above set forth.

Second, The scale of bevels arranged on and operated by the endless chain, M, substantially as above set forth.

42,277.—Saw-mill.—Jesse J. Deputy, Peoria, Ill.:

I claim, first, The arrangement of the upper feed roller, J, or the one that binds on the face of the timber so as to be in line, or nearly so, with the center of the wheel, B, horizontally, as and for the purpose above described.

Second, Combining and arranging the frame, M', with the frames, M and M', substantially in the manner described and for the purpose above set forth.

Third, Constructing and arranging the frames, M and M', to turn on centers, substantially as described, so that the rollers, J1 and J2, may readily assume any required position, to suit any direction the stuff is required to take as it is sawed.

Fourth, Combining and arranging the sliding frame, P, with the frames, M' and M', substantially as described, for the purpose of canting the frame, M', to adapt the roller, J1, to the timber when the edges are unequal in thickness to each other.

Fifth, Combining the pulley, G6, with the wheel, B, by means of the intermediate pulley, G7, shaft, F5, worm wheel, I, and rack, I, constructed substantially as described and for the purpose set forth.

Sixth, Combining the frame, H, with the wheel, B, by the means hereinbefore specified, for the purpose of preserving the parallelism of the shaft, F and F', substantially as described.

42,278.—Tamping-bars.—Abner Dobb, San Francisco, Cal.:

I claim arming the end with, or attaching thereto in the manner herein recited, copper, or an alloy of copper, or any other metal or metals, substantially as and for the purpose herein set forth.

42,279.—Camera Stand.—R. B. Douglas, Cleveland, Ohio:

I claim, first, The table, B, standards, F F' D and G, and cross-bar, H, when hinged together as and for the purpose specified.

Second, I claim the use of the hinged lever, C, for giving the table a vertical motion, substantially as described.

42,280.—Mode for the Purification of Salt Brines.—Samuel P. Duffield, Detroit, Mich.:

I claim the application of ashes treated as above for the purification of salt brines or re-solutions of salts and a precipitation caused thereby of the chlorides of calcium and magnesium and of iron, the same in order to secure success being first treated in a reverberatory furnace as above described, and subsequently boiled or bleached so as to secure a clear solution thereof, which is then applied or introduced into the brines or re-solution of salts, in the proportion and manner above described.

42,281.—Lamp Burner.—Horatio Fairbanks, Boston, Mass.:

I claim the combination of the adjustable air-supplying tube or conduit, D, with the wick-tube, A, the said conduit being movable vertically on the wick-tube and provided with air entrance openings, substantially as described.

I also claim the combination and arrangement of the air-supply tube, D, and its air inlets with the wick-tube, A, and the circulating chamber, a, formed by the conduit tube, B, extending down from the screw-cap, C, substantially as specified.

42,282.—Harvester.—Daniel D. Gitt, Arendtsville, Pa.:

I claim, first, In combination with the pitman, A, the rollers, C, C', and guide-ways, D, D', constructed, arranged, and operating in the manner and for the purpose set forth.

Second, I claim the rigid bar, G, constructed and applied in the manner described for preventing side draft.

12,283.—Bag-holder.—Freeman Godfrey, Grand Rapids, Mich.:

I claim, first, The hoop, B, attached by hinges, c, to a bench or suitable support, in combination with the bail, c, substantially as and for the purpose specified.

Second, The inclined bench, a, in combination with a bag fastening for holding the bag and distending the mouth of the same, substantially as described.

[This invention consists in the employment or use of an inclined bench provided with a fastening or clamp for securing the bag on the bench while the former is being filled, and also for keeping the mouth of the bag in a distended or open state, so that the substance with which the bag is to be filled may be readily thrown or poured into the latter.]

42,284.—Sewing Machine.—Wm. O. Grover, West Roxbury, Mass. Patented in England Aug. 22, 1862:

I claim the combination substantially as described of a slotted arm attached to a rock-shaft, a vibrating sector provided with pins, and a connecting rod acting in combination substantially as set forth to move a sewing machine needle, substantially in the manner described.

I also claim the arrangements of these devices as described at the rear end of a bracket in connection with the arrangement of a rock-shaft extending along the bracket and carrying an arm that actuates the needle stock, in the manner specified.

42,285.—Sewing Machine.—Wm. O. Grover, West Roxbury, Mass.:

I claim the connection substantially such as is herein described, by which one shaft of a sewing machine causes another to revolve with it, consisting of two crank pins, a connecting rod attached to both of them, and a fulcrum, all operating in combination substantially as specified.

42,286.—Faucet.—Joseph Grundy, Stoneham, Mass.:

I claim in combination with the plate, m, and screw-rod, a, the peculiar-shaped washer, o, p, and chamber, z, in the screw-rod, a, as shown and set forth.

42,287.—Street-scraping Machine.—E. Hamburjer, New York City:

I claim, first, The oscillating weighted box, F, in combination with the platform, A, crank-shaft, C, and pounder, I, constructed and operating in the manner and for the purpose substantially as herein specified.

Second, The application of the oblique adjustable scraper, K, and brush, L, in combination with the rising and falling scoops, M, and platform or car, A, all constructed and operating in the manner and for the purpose substantially as herein shown and described.

42,288.—Carriage Shaft.—James Hansen, Saugerties, N. Y.:

I claim the combination of the spindle, D, having a stud, E, thereon, with the socket, F, and cross-bar, G, as hereinbefore described and for the purposes set forth.

42,289.—Water Elevator.—S. Hemenway, Fond du Lac, Wis.:

I claim the swinging windlass by means of which the buckets are thrown forward and downward and emptied without the backward motion of the crank and reel, substantially as specified.

42,290.—Grain Drill.—Gideon Huntington, Norwichville, Canada West. Ante-dated March 28, 1864:

I claim, first, The combination and arrangement of the gear wheels,

F, lever, G, and connecting-rods, B, B, when constructed and operating in the manner and for the purpose herein set forth.

Second, The seed roller, K, provided with the coarse brushes on one side, and fine brushes on the opposite side, as and for the purpose set forth.

Third, The cogged pivot standard, I, of wheel, H, when constructed and operating in the manner and for the purpose herein set forth.

Fourth, In combination with the standard, I, the lever, K, when arranged and operating in the manner and for the purpose set forth.

42,291.—Bag Filter for Sirups, &c.—Gustavus A. Jasper, Charlestown, Mass.:

I claim my improved arrangement and application of the bags, the cistern for containing the sirup, and the chamber for receiving it after it may have been passed through the bags, the same being such as to cause the sirup to first flow against the outside surface of each bag, thence through the sides or meshes of the bag and into the interior of the bag, and from thence out of the same or into the receiving chamber, as described.

I also claim the combination and arrangement of one or more hollow foraminous standards or tubes, D, with one or more filter bags, and a receiving cistern, A, arranged together in the improved manner, substantially as hereinbefore described.

I also claim the combination and arrangement of a steam-chest or receiving chamber, B, with the chamber, A, and one or more filter bags arranged therein in manner and so as to operate substantially as described.

I also claim the tubular bag-supporter or post, as made with the bag-securing neck and with a screw arranged at its lower part, substantially in manner and for the purpose set forth.

42,292.—Sewing Machine.—A. F. Johnson, Boston, Mass.:

I claim, first, Forming a seam or series of stitches by pulling in contradiction to pushing a thread through the fabric by means of a hook-needle, and passing another thread through the loop of the former by means of a shuttle, or its equivalent, when used in combination with the feeding mechanism of a sewing machine.

Second, In combination with a sewing mechanism operating as described, I claim keeping the thread slack or free from tension while being drawn through the fabric by the hook-needle, substantially as described, so as to prevent the great friction and strain that would otherwise occur, as set forth.

Third, Such an arrangement of devices or "take-up" for tightening the stitch and supplying the needle as will operate independently of the hook-needle or of its motion, so as to avoid the necessity of drawing the thread through the fabric to tighten the stitch by means of the hook-needle itself, as set forth.

Fourth, Giving the needle both an eccentric and rotary movement, for the purposes specified.

Fifth, The combination of an awl or other device for puncturing the fabric, an open-eyed or hook-needle for seizing and pulling the thread through the fabric, and a shuttle or other device for interlocking one thread with another, the whole operating together substantially as described.

Sixth, The combination of an awl or perforating device, open-eyed or hook-needle, shuttle or other device, and such an arrangement of devices or "take-up" for tightening the stitch, as accomplishes its purposes by operating independently of the action of the hook-needle.

Seventh, The combination of the vibrating arm and guiding pulley, or their equivalents, the whole operating together so as to form a "take-up" which acts independently of the needle, substantially as described.

Eighth, The arrangement of the pulley, W', and swivel-box, V', for the purposes specified.

Ninth, Placing the awl in a swinging arm of the awl-bar, in combination with set screws, m' n', or other equivalent adjustable devices, respectively for regulating the length of stitch and for feeding the fabric to the needle.

42,293.—Balanced Valve for Steam Engines.—William Joslin, Cleveland, Ohio:

I claim, first, The combination of the flexible diaphragm, D, and valve plate, C, with the valve, B, as above described.

Second, I also claim working the slide valve steam tight on its upper and lower surfaces by means of steam pressure, without a steam tight box or chest, as herein set forth.

42,294.—Slide Valve for Steam Engines.—William Joslin, Cleveland, Ohio:

I claim the diaphragm, G G2, and plate, E, E2, in combination with the valve, B, as above described.

42,295.—Composition for removing Paint, Varnish, &c.—Howard C. Kearny & Joseph W. Harrison, Philadelphia, Pa.:

We claim the use, substantially in the manner and for the purpose herein described, of a solution of hyalate or potassium or other equivalent alkali, in combination with sulphate or carbonate of lime.

42,296.—Harvester.—L. G. Kniffen, Worcester, Mass.:

I claim the combination and arrangement with the main driving wheels of a harvester and the cutting apparatus thereof, of the parts marked a and d, whereby when the machine is turned either to the right or left, the cutting apparatus will be operated without cramping either wheel, and whereby the machine can be backed without noise or operating the cutters, substantially as described.

42,297.—Link Motion for operating Valves.—Willard Knowles, Boston, Mass.:

I claim the connection of the link with its operative lever, the same being by means of the curved arc, k, and the swing block, i, or its equivalent.

42,298.—Truss-pad.—William K. Leach, Boston, Mass.:

I claim the fastening for a truss-pad hereinabove described, the same consisting of a ball and socket joint actuated by a lever bar and having the surface of the socket or of the ball or both scored or roughened, as set forth.

42,299.—Clamp for holding Nuts and Bolts.—Wm. J. Lewis, Pittsburgh, Pa.:

I claim the levers, A, A, furnished with jaws, D, D, for gripping the work, when operated by a wedge, N, and screw, T, in combination with the die, E, and frame, B, for supporting the parts, the whole being constructed and arranged in the manner shown and for the purposes herein set forth.

I also claim the combination with the frame carrying the jaws the thumb-screw, L, supported by the projecting bracket, F, operating in the manner as herein set forth.

I also claim the use of the springs, P, P, for forcing the levers against the wedge, in combination with the frame, B, the jaws, D, D, and die, E, for the purposes hereinbefore shown and set forth.

42,300.—Machine for Manufacture of Shoe Binding.—Alfred O. Lindsey, Charlestown, Mass.:

I claim the machine or combination substantially as above described, such consisting of the endless series of carrying bands, B B B, the bed drum, 5, the series of rotary cutters, K K K, and the stripping mechanism or rollers, R, and reservoir, C, arranged and so as to co-operate, and supplied with operative mechanism, substantially as hereinbefore explained.

42,301.—Mode of operating Car Brakes.—William Loughridge, Weverton, Md.:

I claim the swinging standards, D, D, arranged with the main or continuous chain, G, and combined with the rods, J, and chain, K, of the hand brake, in the manner substantially as and for the purpose herein set forth.

42,302.—Shoe-blackening Apparatus.—Samuel Macferran, Philadelphia, Pa.:

I claim combining the reversible boot-jack, C, with the shoe-blackening apparatus, substantially as described, so that it may be used as a rest or support for the foot during the operation of blackening; and also as a jack for drawing off the boots, by detaching it from the case, as above set forth.

42,303.—Chopping Ax.—Truman Merriam, Waterloo, Wis.:

I claim, first, An ax having the lower part thicker and heavier than the upper part, in combination with the upper corner, D, projecting upward on one edge, and the lower corner, E, on the other axis.

Second, The slanting or oblique form of the edge of the ax, as above described.

42,304.—Siphon.—Joseph M. Nagle, Philadelphia, Pa.:

I claim a siphon having a reservoir, c, with an opening, a, below the bend, in the long leg, and a cock or valve, D, at or near the lower end of the same leg, all substantially as and for the purpose herein set forth.

42,305.—Manufacture of Scythe-rods or Bars.—Lucius C. Palmer, Winchester, Conn.:

I claim the arrangement of iron and steel, as in piles, Figs. 1 and

7, the rolling, drawing, sitting, and working the same, as and for the purpose herein shown and described.

42,306.—Sole-edge and Heel-shave.—Owen B. Parker, Hopkinton, Mass.:

I claim the improved sole-edge and heel-shave constructed substantially as above described, that is not only with the cutting knife and the adjustable gage, but with the cutting knife provided with the rounded edge notch arranged with respect to its cutting edge as specified.

I also claim the adjustable gage and its scale as made or provided with the locking stud and the series of countersinks or recesses arranged or applied with respect to such gage and scale, substantially in manner and so as to operate as described.

42,307.—Spinning Machine.—Marty John Roberts, Pendarren House, Wales, Great Britain. Patented in England Dec. 15, 1862:

I claim, first, Constructing such apparatus with what I have hereinbefore termed a dead-plate, acting in manner and for the purpose hereinbefore described.

Second, Constructing such apparatus with spindles fitted, as hereinbefore described, and capable of running within the flyers, as described with reference to Figs. 1, 2, 4 and 5, whether connected with the flyers by hooked arms, as shown at Fig. 5, or free as shown at Figs. 1, 2, and 4.

Third, The general arrangement and combination of the parts of such apparatus hereinbefore described and represented at Figs. 1, 2, 4 and 5, of the accompanying drawings.

42,308.—Device for lubricating Spindles, &c., in Spinning and other Machines.—Marty John Roberts, Pendarren House, Wales, Great Britain. English Patent dated May 25, 1863:

I claim the means of preventing the escape of the oil or other lubricant in the lubrication of vertical and inclined spindles, and other vertical and inclined parts of machinery by—

First, An upper chamber or cup to receive the oil or other lubricant made to rise from a lower oil cup or vessel by the revolution of the parts to be lubricated, substantially as hereinbefore described.

Second, A tube or tubular projection on or fixed to the cover of the cup containing the oil or other lubricant, substantially as hereinbefore described.

Third, Revolving cups fitted into a cover to prevent oil or other lubricant matter being thrown out, substantially as hereinbefore described.

Fourth, What I term a flash-plate, substantially as hereinbefore described.

Fifth, I claim the apparatus applicable to sliding collars, as shown at Fig. 3, and hereinbefore described.

42,309.—Horse Rake.—John Robinson, Lawrence county, Pa.:

I claim the use of the revolving rake-wheel provided with two sets of tines to operate alternately and attached to the carriage by a hanging frame, substantially as described.

I also claim the use of the lever for operating the catch bar in connection with the sliding bar for elevating and holding up the rake frame, when the rake is not in use, substantially as described.

42,310.—Apparatus for reducing Fish to Guano, &c.—Thomas L. Robinson, Boston, Mass.:

I claim, first, Combining in one apparatus such arrangements of mechanical devices as will accomplish the several operations of heating or boiling, disintegrating and expressing the oil from fish, as set forth.

Second, Keeping the fish in such position with regard to the cutters as to cause it to be uniformly acted upon thereby, by means of such feeding devices as will bring the cutters and body of the fish in proper relations to each, to accomplish the desired results described.

Third, So constructing and operating the feeding plate, e, that it will serve both as a platen for the pressing devices to act against and also permit material in the heating vessel to be delivered to the pressure chamber, as described.

Fourth, The combination of a heating vessel and disintegrating devices in the same apparatus, substantially as described.

Fifth, The combination of a heating vessel and devices for expressing oil from fish in one and the same apparatus, substantially as described.

Sixth, The combination in one apparatus of devices for both pressing and disintegrating fish, substantially as described.

Seventh, The use of serrated revolving cutters, operating as described and for the purpose specified.

42,311.—Composition for preserving and curing the Hair.—Helen Rose, Milford, Mass.:

I claim the composition, made of the ingredients, and in the manner and for the purpose substantially as specified.

42,312.—Fire-place Stove.—Marshall D. Wellman, Pittsburgh, Pa.:

I claim, first, The use, in the back and side fire-walls of fire-places, of plates extending from a point about the ordinary level of the top of the grate to the top of the grate, and grading in size until they terminate at the level of the grate-bars of the fire-basket, the lower end of such plate coinciding with an opening between the grate-bars, for the purposes hereinbefore set forth.

Second, The use of a series of horizontal strips or slats placed underneath or between the bars and independent thereof, and so arranged as to turn on their axis, closing or opening at pleasure the air spaces between the grate-bars.

Third, Sloping the back or fire-wall forward over the fire from a point at or below the level of the fire-bed, so that the coal or fuel will not be inclined to pack down against the back wall, and thus allowing the upward passage of the air between the back wall and the fire, substantially as hereinbefore described.

Fourth, The combination of the lattice or screen, t, with the air flue, m, and dust pipe or pipes, p, for the purpose of preventing the descent of dust or soot into the fire-grate, and collecting them in a separate receptacle, substantially as described.

Fifth, The use of the sliding cap, k, when so arranged in combination with the air flue and smoke flue as to close them simultaneously.

42,313.—Machine for making Paper Bags.—Joseph Wells, Hoboken, N. J.:

I claim, first, The arrangement of the folding rollers, F F', in respect to each other, in combination with the gage plate, E, as described.

Second, The combination of the folding rollers, F F', with the folding rollers, F F', and the gage plate, E, arranged as set forth, for the purpose specified.

Third, The carriages, b b', in combination with gage plate, E, and the folding rollers, F F', substantially as set forth.

Fourth, The arrangement of the knives, c, in respect to each other, and in combination with the parallel bars, J, as set forth for the purpose specified.

Fifth, In combination with the gage plate, E, the parallel bars, J, arranged as set forth for the purpose specified.

Sixth, The combination of the vibrating shell, I, with the paste-brush, folding rollers, c, and the folding blade, S, substantially as set forth.

Seventh, The general arrangement of the parts of the machine described, for performing the various operations of making the bags in the order and manner set forth.

42,314.—Machine for jointing Spikes.—Amos Whittemore, Cambridge Port, Mass.:

I claim, first, Pointing the spike by swaging each of its four sides, the swaging of two sides being simultaneous, and alternating with the simultaneous swaging of the other two sides, by means of rolling or turning devices, the spike being at the same time held stationary.

Second, Two or more pairs of rollers, or their equivalents, b b1 b2, arranged apart, on turning supports, and adapted and operated so as to swage two sides of the point of the spike simultaneously while the other two sides are unsupported, and thus alternately act upon respective pairs of sides, so as to finish the point without "flaws," substantially as described.

Third, Arranging the segments, F, F, or their equivalents, with respect to the taper end of the spike box, and with respect to the segments, D, D, or their equivalents, by inclining the shafts, E, E, substantially as and for the purpose described.

Fourth, The construction of the taper end of the spike box and the segments, F, F, or their equivalents, for restoring the lateral width by the first acting set of the rollers, d, d, substantially as described.

Fifth, Making a "finless" spike by machinery constructed and operating substantially as described.

Sixth, The segments, D, D', carrying rollers or rolling surfaces for pointing the spikes, in combination with side segments, E, E, and rolling surfaces, or their equivalents, for restoring the lateral width to the spike point, arranged and operating substantially as described.

Seventh, The combination of the cutter and guide, g g', with the oscillating carriage, C, substantially as described.

Eighth, The arrangement of a striker, p, on the segment, D, substantially as described.

42,315.—Construction of Ordnance.—Norman Wiard, New York City.

I claim, first, the within-described construction of guns, of two or more metals, having different rates of expansion by heat; a hard and slightly expandible metal, B, being within the other, or others, and so arranged that the external metal shall support and aid in resisting the mechanical force of the gases, and also allow the expansion of the several metals as they become heated by firing, substantially as above set forth.

Second, I also claim the employment in such guns of an exterior shell A2, connected with an interior shell A1, by braces A', with the intervals filled with a material, C, having less conducting power, the parts being arranged substantially in the manner and for the purpose above set forth.

Third, I further claim, in such guns, the mechanical condensation of the inner surface of the cylindrical shell, A, and the outer surface of the spherical shell, A2, in combination with the filling of the space between them, with a tightly compressed material, C, substantially as and for the purpose above set forth.

Fourth, I further claim in guns where a lining is applied within a strengthening shell, the employment of an intermediate bed of lead, or the like plastic material, D, substantially as above set forth.

Fifth, I further claim the wheel form of the exterior of a gun adapted for use in combination with armor substantially in the manner and for the purpose above set forth.

Sixth, I further claim in such guns the recess, a, arranged substantially as and for the purpose above set forth.

42,316.—Skate.—Daniel H. Shirley, Boston, Mass. I claim the construction and arrangement of the sliding box, k, with its lip, m, and screw, d, the whole operating together as set forth.

42,317.—Toy Spring Gun.—William H. Stevens, New York City.

I claim the receptacle, O, constructed substantially as stated, when connected by the rod, F, with an archer's bow in the manner set forth, the whole constituting a toy spring gun.

I also claim providing spring guns for discharging projectiles, with a whistle or musical device, substantially in the manner and for the purpose set forth.

42,318.—Sewing Machine Table.—Nesbitt D. Stoops, Newark, N. J.

I claim, first, in combination with sewing-machine tables, the rubber cushions or joints when interposed between the castors or other supporting part of the table next to the floor and the supporting frame or legs at a point or points below the treadles and crank shaft bearings, substantially as described, and substantially for the purposes hereinbefore set forth.

Second, The combination of a skeleton frame sewing-machine table with a flanged tray, and castors, when arranged with elastic cushions between the feet of the table and the tray, substantially as described, for the purpose of protecting the carpets from grease, and rendering the movement of the machine less noisy.

42,319.—Preparation of Vegetable Fiber.—Jacob Storer, Portsmouth, N. H.

I claim the use of steam and vapor of water for conveying alkalies and other chemicals, in the manner and for the purposes substantially as described.

42,320.—Manufacture of Nuts.—Leopold Thomas, Alleghany City, Pa.

I claim forming blanks, by the use of beveled-edged bars previously prepared, substantially as described.

42,321.—Cooking Stove.—Marshall D. Wellman of Pittsburgh, Pa.

I claim the use, in the walls of the fire chamber of cooking stoves, of flues or air passages extending upwards from the spaces or openings between the grate bars, and diminishing in size from below upwards, in combination with movable slats or strips for closing and opening the air passages or spaces between the bars, and thus regulating the supply of air between the grate bars and into the flues, substantially as described.

Also the use, in cooking stoves, of a back wall, sloping from a point at or below the level of the grate bars, and extending upwards and forwards so as to overhang the fire, substantially as and for the purposes herein set forth.

42,322.—Grain-binder.—Samuel Jacob Wallace, Carthage, Ill.

I claim, first, A rack, c, in combination with arm, D, or its equivalent, for giving motion to the fastener, substantially as described.

Second, The slotted wire-holder formed of bent plates, b, b, substantially as described.

Third, The bearing, e, or e', for carrying the strand to the fastener and releasing the strand, substantially as described.

Fourth, The cutter, d, attached to the compressing arm, D, and operating in combination with the fastener substantially as described.

Fifth, Editing the several operations, of carrying the strand around the sheaf, drawing up the block of strand, forming the fastener and severing the sheaf from the machine, in the manner described, by the action of the lever, D', moved backwards and forwards substantially as described.

42,223.—Wood-splitting Machine.—William Wibirt, Buffalo, N. Y.

I claim the combination and arrangement of the splitting knife, H, provided with the thin or acute sides, g, g, and edge, h, for entering the wood and the central obtuse wedge, i, for cleaving it with the adjustable sliding block, K, provided with the graduations P, q, substantially as and for the purposes herein set forth.

32,324.—Boot-crimping Machine.—Horace Wing, Buffalo, N. Y.

I claim a crimping plate, F, so constructed as to leave its front end open or free and unobstructed, and operated upon a fulcrum bolt, H, by gear segments I, and J, substantially as described.

42,235.—Cutting, Punching, and Bending Machine.—Charles Wright, Newark, N. J.

I claim, first, The adjusting the punches by means of the loose ring and set screws, substantially as described.

Second, The cutting and punching rollers when constructed, combined and arranged substantially as hereinabove specified.

Third, The combination of the bending rollers with the cutting and punching rollers in the manner and for the purpose specified.

42,326.—Manufacture of Vegetable Fur, &c.—Peter Baumgras, Syracuse, N. Y., assignor to himself and Charles E. Livingston, U. S. Army.

I claim, first, Making the seed tufts of the Typha Latifolia into vegetable fur upon an artificial skin by the process and in the manner which is substantially herein described.

Second, Editing the downy fibres of the seed spike of the Typha Latifolia from its stalk or culm by attaching an artificial skin around its exterior surface and then detaching the seed tufts as above set forth.

Third, Making two artificial skins off from one single spike in the manner above described.

Fourth, Uniting two or more smaller skins to make one larger one substantially as above shown.

Fifth, Spreading the vegetable fur so as to be less dense and to occupy more space in the manner described.

Alfred W. Craven, as Trustee for the Metropolitan Fair, &c., for the U. S. Sanitary Commission:

I claim, as a new article of manufacture, the within-described perforated cap B, C, for the wick tubes of lamps, the same being adapted to fit snugly around and upon the ordinary wick tubes and to cling thereon substantially in the manner and for the purpose herein set forth.

42,329.—Cartridge.—Silas Crispin, New York City (U. S. Army), assignor to Thomas Poutney, Baltimore, Md.

I claim the combination of thin pieces of sheet metal, with paper and a cup, to form, substantially in the manner described, a finished cartridge for breech-loaders, for the purpose set forth.

42,330.—Mule for Spinning.—Hiram Goff, Cumberland, R. I., assignor to himself and George D. Oatley, Smithfield, R. I.

I claim the combination of the lever, N, dagger or arm, T, gear L, rack, M, weight, o, spring catch, V, with its stud, k, the latch, V, the finger, U, the slotted inclined plate, X, and its movable stud or pin, u, the whole being applied to the cam shaft and the levers as herein before described, so as to operate substantially as specified.

42,331.—Harvester.—L. G. Kniffen, (assignor to himself Alzirus Brown, and Thomas H. Dodge), Worcester, Mass.

I claim a scolloped reciprocating sickle or cutter with its bar supported and working upon friction plates, f, and separate back guides to retain the former in place, in combination with open cap stooled guard fingers having contracted or beveled wings or flanges, b, b, to support the cutters above and permit of the free passage of dirt below, and with the angles, c, e, to fit the finger bar, all as shown and described.

42,332.—Machines for boring the Chambers of Cannon.—William McCleery of Pittsburgh, Pa., assignor to Seyfert McMann & Co., Reading, Pa.

I claim the segment, D, of a worm wheel with its center, G, and the screwed shaft, E, the whole being combined with the boring bar, A, and applied to the finishing of the chambers of cannon substantially as and for the purpose herein set forth.

42,333.—Grain-dryer.—Frederick H. C. Mey, (assignor to himself, A. B. Nimbs, and J. C. Clifford, Buffalo, N. Y.)

I claim, first, the furnace, A, provided with purifying chambers, B, for the purposes and substantially as described.

Second, The revolving perforated table, E, and reversible plows, F, in combination with either the drying or cooling chamber, D, constructed, arranged and operating substantially as described.

Third, The steam or water pipe, a5, in combination with a furnace, A, and grain-drying chamber, D, for the purpose of purifying the air, substantially as set forth.

Fourth, The combination and arrangement of the suction blower, P', including the pipes, P2, P3, with the drying or cooling apparatus as described.

Fifth, I claim the application and use of purifying chambers interposed between the furnace and the dryer through which chambers the hot air of the furnace must pass on its way to the dryers substantially as described.

42,334.—Machine for shaping Heels for Boots and Shoes.—James Samuels (assignor to himself and William H. Gale), Lynn, Mass.

I claim the improved machine as not only constructed with mechanism for supporting the leather and shaping it in the form necessary for a heel, but as having a treadle, U, and an auxiliary lever, T, arranged and combined together and with the table, A, and the movable standard, B, substantially in manner and so as to operate as described.

And also I claim the improved machine as not only constructed with mechanism for supporting the leather and shaping it in the form necessary for a heel, but as having its heel pattern cam stationary and its cutter, P, provided with adjusting devices all substantially as described, whereby such cutter may be adjusted not only for heels of different sizes, but in other respects as explained.

And I also claim the arrangement of the cutter-carrier spring, O, within the lever, N, and so as to bear by means of its head against and turn on the post, I, substantially in manner and under circumstances as specified.

I also claim the improved machine as not only constructed with mechanism for supporting the leather and shaping it into the necessary form for a heel, but as having its auxiliary cutter or chisel, E, so arranged and applied to the standard, B, that while being depressed it will make a slanting cut through the leather or a cut inclined to the upper surface of the block for supporting the leather.

42,335.—Loom for weaving Trimming.—Louis T. Valetton (assignor to H. W. Hensel), Philadelphia, Pa.

I claim, first, One or more rods, K, and K', or their equivalents, arranged and operating in conjunction with the warp and weft threads of a loom, substantially as and for the purpose set forth.

Second, The hooked rods, b, and c, arranged and operating in conjunction with the spindles, I, for distending the warp threads, substantially as described.

RE-ISSUE.

1,652.—Breech-loading Fire Arm.—The Spencer Repeating Rifle Company, Boston, Mass., assignees by mesne-assignments of Christopher M. Spencer, South Manchester, Conn. Patented July 29, 1862:

I claim, first, The compound breech, consisting of the pieces B, and C, constructed, operated and operating substantially in the manner described.

Second, The combination with the compound breech, B, C, of the guard lever, G, substantially in the manner and for the purpose set forth.

Third, The lever, G, arranged and operated substantially as described.

PATENTS GRANTED:

FOR SEVENTEEN YEARS!

MUNN & COMPANY,

In connection with the publication of the SCIENTIFIC AMERICAN, have acted as Solicitors and Attorneys for procuring "Letters Patent" for new inventions in the United States and in all foreign countries during the past seventeen years.

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MESSRS. MUNN & CO.—I take pleasure in stating that, while I held the office of Commissioner of Patents, MORE THAN ONE-FOURTH OF ALL THE BUSINESS OF THE OFFICE CAME THROUGH YOUR HANDS. I have no doubt that the public confidence thus indicated has been fully deserved, as I have always observed, in all your intercourse with the office, a marked degree of promptness, skill, and fidelity to the interests of your employers. Yours very truly,

CHAS. MASON.

Judge Mason was succeeded by that eminent patriot and statesman, H. Joseph Holt, whose administration of the Patent Office was so distinguished that, upon the death of Gov. Brown, he was appointed to the office of Postmaster-General of the United States. Soon after entering upon his new duties, in March, 1859, he addressed to us the following very gratifying letter:

Very respectfully, your obedient servant, J. Holt.

Hon. Wm. D. Bishop, late Member of Congress from Connecticut, succeeded Mr. Holt as Commissioner of Patents. Upon resigning the office he wrote to us as follows:

MESSRS. MUNN & CO.—It gives me much pleasure to say that, during the time of my holding the office of Commissioner of Patents, a very large proportion of the business of inventors before the Patent Office was transacted through your agency; and that I have ever found you faithful and devoted to the interests of your clients, as well as eminently qualified to perform the duties of Patent Attorneys with skill and accuracy. Very respectfully, your obedient servant, Wm. D. Bishop.

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

As an evidence of the confidence reposed in their Agency by inventors throughout the country, Messrs. MUNN & CO. would state that they have acted as agents for more than TWENTY THOUSAND inventors! In fact, the publishers of this paper have become identified with the whole brotherhood of inventors and patentees, at home and abroad. Thousands of inventors for whom they have taken out patents have addressed to them most flattering testimonials for the services rendered them; and the wealth which has inured to the individuals whose patents were secured through this office, and afterwards illustrated in the SCIENTIFIC AMERICAN, would amount to many millions of dollars! Messrs. MUNN & CO. would state that they never had a more efficient corps of Draughtsmen and Specification Writers than those employed at present in their extensive offices, and that they are prepared to attend to patent business of all kinds in the quickest time and on the most liberal terms.

PRELIMINARY EXAMINATIONS AT THE PATENT OFFICE. The service which Messrs. MUNN & CO. render gratuitously upon examining an invention does not extend to a search at the Patent Office, to see if a like invention has been presented there; but is an opinion based upon what knowledge they may acquire of a similar invention from the records in their Home Office. But for a fee of \$5, accompanied with a model, or drawing and description, they have a special search made at the United States Patent Office, and a report setting forth the prospects of obtaining a patent, &c., made up and mailed to the inventor, with a pamphlet, giving instructions for further proceedings. These preliminary examinations are made through the Branch Office of Messrs. MUNN & CO., corner of F. and Seventh streets, Washington, by experienced and competent persons. Many thousands of such examinations have been made through this office, and it is a very wise course for every inventor to pursue. Address MUNN & CO., No. 37 Park Row, New York.

HOW TO MAKE AN APPLICATION FOR A PATENT. Every applicant for a patent must furnish a model of his invention if susceptible of one; or, if the invention is a chemical production, he must furnish samples of the ingredients of which his composition consists, for the Patent Office. These should be securely packed, the inventor's name marked on them, and sent, with the Government fees, by express. The express charge should be pre-paid. Small models from a distance can often be sent cheaper by mail. The safest way to remit money is by a draft on New York, payable to the order of Messrs. 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.

Patents are now granted for SEVENTEEN years, and the Government fee required on filing an application for a patent is \$15. Other changes in the fees are also made as follows:—

On filing each Caveat.....\$10  
On filing each application for a Patent, except for a design.....\$15  
On issuing each original Patent.....\$20  
On appeal to Commissioner of Patents.....\$20  
On application for Re-issue.....\$30  
On application for extension of Patent.....\$50  
On granting the Extension.....\$50  
On filing a Disclaimer.....\$10  
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On filing application for Design (seven years).....\$15  
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The 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 law abolishes discrimination in fees required of foreigners, excepting natives of such countries as discriminate against citizens of the United States—thus allowing Austrian, French, Belgian, English, 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. Foreigners cannot secure their inventions by filing a caveat; to citizens only is this privilege accorded.

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

EXTENSION OF PATENTS. Many valuable patents are annually expiring which might readily be extended, and if extended, might prove the source of wealth to their fortunate possessors. Messrs. MUNN & CO. are persuaded that very many patents are suffered to expire without any effort at extension, owing to want of proper information on the part of the patentees, their relatives or assigns, as to the law and the mode of procedure in order to obtain a renewed grant. Some of the most valuable grants now existing are extended patents. Patentees, or, if deceased, their heirs, may apply for the extension of patents, but should give ninety days' notice of their intention.

Patents may be extended and preliminary advice obtained, by consulting or writing to MUNN & CO., No. 37 Park Row, New York.

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