

produced a great increase in the breadth of land sown,—in some regions nearly double—and Providence has smiled upon the buried seed and the tender blade. The deep snows of the winter have protected the wheat, and from every section comes the report that it is growing magnificently and promises a glorious yield, far surpassing in the aggregate any crop ever before raised in this country. The Puritans of New England, taught by hunger to feel their dependence on the God of nature, used to fast and pray one day in every spring, for a blessing on their hard fields, and their descendants keep up at least the form in the New England states to this day. Our crops have yet to run the gauntlet of many foes, and may the Providence whose bounty we have seen so marvellously enlarged in modern years, still regard mercifully the wants of our teiling millions, and "God save the wheat!"

The report of the Agricultural Department for April says: "Never has there been so general an expression of encouragement in view of the fine condition of winter wheat since the establishment of the present system for the collection of crop statistics. In more than nine tenths of the returns received, the condition of the crop is reported favorable and promising. From the South the returns are as cheering as from the West. The report states, however, that the loss of cattle from starvation and exposure the past winter has been extraordinary. Beef is not likely to be any cheaper.

GLEANINGS FROM THE POLYTECHNIC ASSOCIATION.

Dr. Feuchtwanger showed a specimen of tellurium, an exceedingly rare substance commonly classed among the metals but which has much analogy in its properties to sulphur and selenium. The French call this substance one of the metalloids. In its native state the ore is found combined with iron, gold, or silver. Its color is silvery white and brilliant, and in appearance it closely resembles antimony. It is found in the Altai mountains and in Transylvania. The specimen shown was found in a gold mine of California.

Mr. Fisher exhibited drawings for a steam-plowing machine or more properly a pulverizer. The machine resembles a locomotive with a short boiler, and mounted on wide tired wheels. The power is applied to drive a drum having circular saws thereon set three inches apart. By suitable gearing the engine advances slowly while the drums rotate with great rapidity, pulverizing the soil to the proper depth. The subject of steam plowing being thus introduced, its importance was acknowledged by all, but an animated discussion sprung up respecting the relative advantages of employing traction engines working the plows directly, or stationary engines working the plows by means of chains, as is the common custom in England. Both methods had their advocates who warmly argued their respective merits. It was claimed on one side that the traction engine beats down the field in front of the spaders which it afterward is made to plow up, as the wheels must be made wide enough to prevent the machine from sinking into the ground.

Mr. Parmelee read a paper on gypsum, describing its nature, and referring more especially to its use as a fertilizer. Its value in this respect he asserted was owing to its absorptive power in taking in ammonia from the atmosphere and storing it up to be disseminated by the rains through the fields.

President Tillman gave the club the results of some experiments he had witnessed at the works of the lead encased block tin pipe company, showing that this pipe possessed the same strength as that of lead pipe of twice its weight. He also referred to the dangerous effects from using water drawn through common lead pipe, and advocated the passage of a law which would prevent its employment in this capacity. He was followed by several members speaking on the same subject, describing minutely the action of the poison and its different effects. Some persons are more susceptible to its injurious consequences than others, as is well known to be the case in regard to painter's colic and kindred complaints.

Mr. Walling repeated the beautiful experiment lately performed by Prof. Thompson of Edinburgh before the Royal Society of Scotland, and described in the article on "wirbel bewegung" on page 212, current volume. These air vortexes are very frequently produced in nature and are made visible when smoke or steam is mixed with the whirling air. They may be seen when cannon are fired, particularly if the muzzle is "slushed" with grease, also as issuing from the smoke stack of a locomotive just starting: human smokers constitute perhaps the largest number of experimenters in this line. Mr. Walling remarked that the molecular theory based upon this phenomenon by Prof. Thompson, was an indication of the tendency of scientific opinion towards some such purely dynamical theory as had been previously proposed by himself.

Tin Lined Pipe for Water.

On Thursday the 23d of May an exhibition of the method of the new manufacture of lead pipe lined with block tin was given at the manufactory of the inventors and manufacturers, foot of west 27th street, New York. The visitors invited had an opportunity to witness the processes from the first casting of the core of tin to the production of the pipe in its finished state, and the sentiment was general that it was a complete success. We have no time nor space in this issue to describe the processes, nor to state the facts established by the experiments. In our next we shall endeavor to show the immense advantages of this over the ordinary water pipe.

The hardware manufactory of Sargent & Co., New Haven, Conn., gives employment, at its full capacity, to 800 hands, and turns out 4,000 different articles of hardware to the amount of \$4,000,000 to \$7,000,000 per year.



ISSUED FROM THE U. S. PATENT OFFICE FOR THE WEEK ENDING MAY 21, 1867. Reported Officially for the Scientific American

Table with 2 columns: Description of patent services and corresponding fees. Includes items like 'On filing each caveat', 'On filing each application for a Patent', etc.

Patents are granted for seventeen years, the following being a schedule of fees: 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.

64,826.—DEVICE FOR HOLDING CIGARS.—Charles Appel, Hoken, N. J. I claim, as an improved article of manufacture, a cigar holder consisting of a combination of the shells, A B, with the cutter, C, the latter either being attached to one of the shells or being part of the same, all made and operating substantially as and for the purpose herein shown and described.

64,827.—LIME KILN.—George Atkins, Sharon, Pa. I claim the arrangement of the lime kiln formed of the chambers, A B D, and heated by furnaces, C C, at different levels inside the kiln, operating substantially as and for the purpose herein described.

64,828.—HAY PRESS.—George H. Aylworth, Brighton, Ill. I claim a hay press, consisting of the box, A, and the sliding partition, K, operated by means of the screws, C B, the whole constructed and arranged as herein shown and described.

64,829.—CARRIAGE-WINDOW FRAMES.—Francis Baker, New York City. I claim a carriage-window frame swiveled or pivoted to uprights, F, arranged to move in and through the carriage body, and bent springs, K or L, hooks or catches, N, and studs, I, substantially as and for the purpose described.

64,830.—SEWING MACHINE.—Robert Barclay, Buffalo, N. Y. I claim, First, The sliding rod, G, situated between the needle slide and tension device, T, in combination with the needle operating shaft, E, and cam, R, the whole arranged and operating as and for the purpose specified. Second, The combination and arrangement of the adjustable pivoted dog, M, slide, O, and lever, G, in combination with the presser foot, D, constructed and operating substantially as and for the purpose set forth.

64,831.—LIQUID FOR CARBURETING GASES.—John A. Bassett, Salem, Mass. I claim the hydrocarbon liquid for carburating gases, produced by the combination and process described substantially in the foregoing specification.

64,832.—PEAT MACHINE.—Alfred Bridges, Newton, Mass. I claim, First, The arrangement of the sleeve, C, passing over stock, D, in the frame, for the purpose described herein. Second, The adjusting plunger, E, by means of projection, A, and spring, C, or its equivalent, as above specified.

64,833.—RAILWAY SWITCH.—James S. Brothers, Duncannon, Pa. I claim the construction of the chair, K, with the adjustable frog, G, when arranged, combined, and operated as herein described and for the purpose set forth.

64,834.—QUARTZ MILL.—Samuel C. Bruce, New York City. I claim, First, The revolving wheels, C and D, with velocities varying in some regular ratio, so that wheel, D, shall always revolve faster than, and in the same direction as, wheel, C, and for the purpose described. Second, The arrangement of wheels, C and D, revolving in the same direction, in combination with the communicating cases, A and B, and so constructing said cases and arranging them with reference to said wheels and their shafts that the external air can enter at aperture, E, only in the periphery of the case, A, substantially as and for the purpose described.

64,835.—SAW SET.—Benjamin N. Butcher, Philadelphia, Pa. I claim the combination of the fixed plate, with beveled edges of different angles of inclination, and the reversible and adjustable pieces, E and E', set screws, F and G, and sets, C D, substantially as and for the purpose set forth.

64,836.—CANE AND SORGHUM STRIPPER.—James A. Campbell, Stow, Ohio. I claim, First, The rollers, G H, arranged substantially as shown and described, in connection with the stationary cutter or stripper, L, and the yielding or pressure cutter or stripper, M, having the lever, N, and spring, O, applied to it, substantially as and for the purpose set forth. Second, The rotary topping cutter, Q, attached to wheel, R, in connection with the concave plate, S, all arranged to operate in connection with the stripping device, substantially as shown and described.

64,837.—PORTABLE SEAT FOR DRIVERS UPON CARS.—James F. Campbell and Cornelius Finney, Williamsburg, N. Y. We claim the upright or staff, B, with hook at one end, and provided with a rod, E, having seat, G, and strap, H, substantially as and for the purpose described.

64,838.—BOTTLE STOPPER.—Horace S. Carley, Cambridgeport, Mass. I claim the slide, F, carrying stopper, in combination with the swiveled load, E, and flues, K, for the purpose of preventing the cold air from chilling the ends of the flues proper, substantially as and for the purpose set forth.

64,839.—WHEEL PLOW.—Elisha A. Chace, Rosemond, Ill. I claim a wheel plow, having the stationary frame, A, pivoted frame, F F', F' pivot beam, D, and elevators, G G' G'', arranged to operate substantially as and for the purpose described.

64,840.—CLOTH-GUIDE FOR SEWING MACHINES.—George F. Clemons, Springfield, Mass. I claim, First, I claim in a cloth guide for sewing machines the employment with a cloth gage of a rigid guide plate, adapted to bear upon the cloth in front of the sewing needle, and extend across the line of seam being sewed, and having elastic and adjustable pressure given to it, in such a manner as that it shall press more upon the cloth outside the seam than inside thereof, and thereby guide the cloth towards the gage face. Second, The elastic plate, B, either with or without the rigid guide plate, A, combined with the pressure plate, C, screw, F, and gage, C, substantially as described and for the purposes set forth. Third, The rigid guide plate, H, combined with the elastic plate, I, screws, J, J', right plate, K, and gage, L, all with or without the link, N, substantially as described and for the purposes set forth.

64,841.—DEODORIZER FOR PRIVY SEATS.—Neil Clifford and A. N. Bell, Brooklyn, N. Y. We claim the combination with the seat of a privy, water closet, or other similar place of whatever name called, of a receptacle or vessel for the reception and holding of any suitable deodorizer or disinfectant, whether in the form of a liquid or powder, when such vessel or receptacle is so constructed and connected with the seat, that by the depression or upward movement of the seat, or both, the said disinfectant or deodorizer will be discharged into the vault of the privy, etc., substantially as and for the purpose described.

64,842.—LOCOMOTIVE ENGINE.—Joseph M. Coale, Baltimore, Md. I claim in combination with locomotives and other similar boilers, the additional sheet, A, and flues, K, for the purpose of preventing the cold air from chilling the ends of the flues proper, substantially as and for the purpose set forth.

64,843.—RAILROAD RAIL FASTENING.—John Cochran, Wall Township, N. J. Antedated May 13, 1867. I claim the combination of a screw, bolt or wood screw spike, with a cleat that has a bearing upon the top and at the edge of the rail flange, and also upon the cross tie, and so constructed or formed that it can be removed from the flange of the rail upon slackening up the screw bolt or wood screw spike by which it is secured to the cross tie, substantially as herein described.

64,844.—STEAM GENERATOR.—S. M. Colburn (assignor to himself and Sylvester Colburn), Ansonia, Conn. I claim the plate, B, constructed and arranged within the boiler, so as to form a chamber, C, communicating with the boiler by means of openings or perforations, A, substantially as and for the purpose set forth.

64,845.—MANUFACTURE OF GAS.—Joseph H. Connelly, Wheeling, West Va. First, I claim the use of lime obtained from burnt limestone or oyster shells, dampened or slaked with water, salt, or saltpeter solution, introduced into the retort as described, in the proportion mentioned, for the purpose of whitening and desulphurizing the gas, as set forth. Second, The use of lime prepared as stated, in combination with coal and residuum oils, introduced as described for the purpose specified. Third, The combination of lime, prepared as stated, and cinders, coke, coal, or wood, with residuum oil alone, for the purposes mentioned. Fourth, The use of residuum oil alone in combination with lime, for the production of inflammable gas, desulphurized and whitened in the manner set forth.

64,846.—MEANS FOR STEERING VESSELS.—Robert Kreuzbauer, New York City. First, I claim, in combination with a steering screw, or its equivalent, arranged within a pipe or water way extending transversely through the hull of a vessel, a means which will enable the pilot to give a right or left motion to said screw or to stop or start it at pleasure, without stopping or reversing the motion of the driving power, substantially as described. Second, The combination of a steering screw or its equivalent, arranged within a water way extending transversely across the hull of a vessel, with a means which will enable the pilot from the pilot house to stop, start, or reverse the motion of an engine, which is used for rotating said screw, substantially as described. Third, In combination with a steering screw, arranged to operate substantially as described, I claim the employment of an engine for rotating the screw, and a means for rotating the screw when the engine is in operation substantially as described. Fourth, Providing for disconnecting the capstan shaft, F, from the screw shaft, G, when this latter shaft is connected to and driven by the engine shaft, H, substantially as described. Fifth, The combination of the capstan or capstans upon shaft, F, with the gearing, E F', clutch, G, lever, G', shaft, d', and with an extension, d2, of shaft, u', clutch, W W', and a driving engine, substantially as described.

64,847.—KEEPER FOR DOOR LOCKS.—George W. DaCunha, of New York city. I claim an improved catch or nosing for door locks formed with a flange, d1, to project along or be led into the jamb, and with a flange, d2, to project along the casing, said flanges being cast solid, and with forming an integral part of the side catch, substantially as herein shown and described, and for the purpose set forth.

64,848.—HAY LOADERS.—Leopold De Lacey, Springfield, Ill. First, I claim the revolving platform and raking device, D, composed of the frame, A, fitted in the main frame, A, and provided with the bars, E, having teeth, F, attached, all arranged substantially as and for the purpose specified. Second, The raking and pitching fork, S, attached to a carriage, P, operated by an endless chain, Q, and arranged with ways or guides, J, on a suitable frame or support, substantially as and for the purpose set forth. Third, The swinging or pendant frame, T, in combination with the lever, I, bar, M, and clutch pulley, G, arranged to operate in connection with the revolving platform and raking device substantially as and for the purpose specified. Fourth, The two pulleys, G G', connected by a clutch, and arranged as shown to operate with the revolving platform and raking device, and the raking and pitching fork substantially as shown and described.

64,849.—PLANING MACHINES.—William H. Doane, Gerritt V. Orton, and William E. Loudon, of Cincinnati, Ohio, assignor to J. A. Fay & Co. First, We claim the combination of the adjustable break irons, K K', with the cutters, K K, and the removable collars, H H, all constructed and arranged in the manner and for the purpose described. Second, The application of the shield, G, to a post, M, which is allowed to revolve around the cutter head substantially as described. Third, Sustaining the safety shield, G, upon the table top, A, by means which will admit of said shield being moved around the axis of the cutter head, and also adjusted vertically substantially as described.

64,850.—WHEEL VEHICLES.—James W. Drew, Stockbridge, Mich., assignor to J. N. Townson and James W. Drew, Antedated May 16, 1867. I claim the crooked sway bar, H, and the cross bars, I and J, in combination with the axle, C C, and the axle guides, G G, the whole constructed and operating in the manner and for the purpose herein described.

64,851.—COCKS.—Charles M. Alburger, (assignor to George R. Kirk), Philadelphia, Pa. I claim the follower, A, having its metallic packing, E, and elastic packing, e, and elastic packing, e', in combination with the spring, D, flange, d, thimble, F, packing, E, and spigot, C, substantially as described for the purpose specified.

64,852.—CONVERTING RECTILINEAR INTO ROTARY MOTION.—James A. Ehle, Green Bush, Wisconsin. First, I claim converting rectilinear motion into rotary motion by the use of polygons, substantially as described. Second, The balanced lever, B, the connecting rods, C C, the carriages, D, and the guides, E, substantially as described and for the purposes herein set forth. Third, The pins, f, forming hooks upon the triangles, E, and the bars, b, in combination substantially as shown and described. Fourth, The cam wheel, L, in combination with the triangle, E, and the gear wheels, H and K, substantially as herein shown and described.

64,853.—PORTABLE ROOFING BOILER AND FURNACE.—Perry Fenlason, Cincinnati, Ohio. I claim the boiler, B, in combination with the spring draw, A, or its equivalent, constructed substantially as above described and for the purpose set forth.

64,854.—ATTACHMENT TO STOVES FOR GENERATING GAS.—B. L. Fetherolf, (assignor to himself and J. N. Hea desty), Tamaqua, Penn. I claim the hollow metallic block, A, fitted within the fire chamber of stove so as to constitute both a gas generator and a lining or fire back, substantially as described.

64,855.—PUTTING UP OILS IN CASKS, &c.—P. G. Finn, Erie, Penn. I claim the barreling and hermetically sealing of coal oil in a heated and expanded state, substantially as and for the purpose set forth.

64,856.—EDIBLE COMPOSITION.—Daniel Fobes, (assignor to Fobes, Hayward, & Co.), Boston, Mass. I claim the edible composition as made of the materials in the manner and for the purpose substantially as described.

64,857.—EXTENSION TABLE.—George F. Folsom, (assignor to himself and Charles F. Pease), Roxbury, Mass. I claim the combination as well as the arrangement of an auxiliary leaf, E, and mechanism (viz. its rods, K, elevators, H, and their counter cams, or the equivalents thereof) for operating it as described with two leg frames, and their main leaves, D D, one of such leg frames being constructed with a space or recess arranged below the main leaf, and for the reception of the auxiliary leaf when the table is closed as described. I also claim the combination as well as the arrangement of two auxiliary leaves, E E, and mechanism for operating them as described, with the three frames, A B C, and their main leaves, D D, arranged together as specified. I also claim the combination as well as the arrangement of two turning leaves, F F, two main leaves, D D, three of the frames, A B C, as described, two auxiliary leaves, E E, and mechanism, viz.: its rods, K, elevators, H, and their counter cams or the equivalent thereof, for operating such leaf or leaves, E, as described. I also claim the peculiar mechanism in combination applied to each turning leaf, K, and for operating each of the auxiliary leaves, such being the slide rods, k, and the elevators and their counter cams, or their equivalents as set forth. I also claim the combination as well as the arrangement of one turning leaf, F, two main leaves, D D, two leg frames, one auxiliary leaf, E, and mechanism, (viz.: its rods, k, elevators, H, and their counter cams, or the equivalents thereof, for operating such leaf as described.

64,858.—MECHANICAL MOVEMENT.—William Galladay, Sheboygan Falls, Wis. I claim the combination of the arms, C D, and pawls, E F, with the ratchet wheel, A, as and for the purpose set forth. Connecting the arms, C and D, at their inner ends, so as to be operated by one connecting rod, substantially as shown and described.

64,859.—GIG MILLS.—Ernst Gessner, Aue, Saxony. First, I claim the construction and arrangement of the revolving disks, D, in the adjustable frame, C, substantially as described for the purpose specified. Second, The arms, G G', with toothed segments, in combination with the rollers, N, and disks, D, constructed and operating substantially as and for the purpose set forth.

64,860.—GATES.—Robert D. Green, Columbia, Mo. I claim the solid bed-sill or track laid in the ground, and detached from the gate post, and on which the gate rests, plain on upper surface with groove or rail as denoted by letters, H, also pin fastener top of posts, as shown by letter, G; also the track cleaners, marked, D D, fastened together under part of bottom rail of the gate in front of each wheel, and designed, as the gate moves, to remove from track all obstructions to the wheels, C C; also gate posts, E E, used to prevent the gate from running off the track when open. I also claim in combination with the posts of the main gate, represented by letters, H D C C E E, letters patent for extended top and bottom rails or sills, to be used at pleasure in forming a gap, moving the gate forward on the wheels, C C, so that the gate will admit the passage of small stock, and at the same time exclude large stock.

64,861.—MANURE DRAG.—Christian H. and Joseph H. Harnly, Pennsylvania Township, Pa. We claim the arrangement of the fork drag, A A' A'', with its spring and lever, F E, clasp rod, D, and armed fork head, C B, runners, G, all combined and operating substantially in the manner specified. In combination with the fork drag, figure, 1, and its rig, O, and hook, K;