Recent American and Foreign Patents.

Under this heading we shall publish weekly notes of some of the more prominent home and foreign patents.

STREET CROSSING AND SEWER INLET.—JOS. A. Miller, New York City.—This invention consists in a street crossing made of a series of perforated metal plates supported by a trough which inclines from the ends towards the center of the crossing, and which is provided with a pipe extending from its middle or lowest part down into the sewer in such a manner that all the water and mud which accumulates on the crossing and in the trough can be easily washed down in the sewer, and will be swept down by a copious rain without fail. Patented March 26, 1867. J. E. Stevenson, Agent, 40 Dey street, New York.

REVOLVING SHEEP-FEEDING TROUGH.—Columbus Aulls, Bridgewater, Mich.—This invention has for its object to furnish a simple and easily constructed trough for feeding grain, roots, etc., to sheep.

CLOTHES PIN.—David M. Smith, Springfield, Vt.—This invention relates to a pin for securing clothes on clothes lines. The object of the present invention is to dispense with the wire joint hitherto used for connecting the two jaws of the pin together, by substituting a wooden joint which is less expensive to apply, reducing very materially the cost of the manufacture of the pins.

HEATING ROOMS.—Samuel A. Halladay, Marrilla, N. Y.—This invention relates to the manner in which the heated gases and products of combustion are retarded and made to part with their caloric before entering the chimney.

GATE.—W. D. Armstrong and W. J. Armstrong, Harlem, Ill.—This invention has for its object to improve the construction of the gate invented by W. J. Armstrong, patented August 21, 1866, and numbered 57,482.

PURIFYING AND PREPARING GLASS ORE.—Enoch Carter, Newburgh, N. Y.—The object of this invention is to so purify and prepare the rock called glass ore—a recently discovered mineral—as to adapt it to many useful and ornamental purposes.

BALANCED STEAM VALVE.—Edwin Parker and Thomas S. Parker, Schenectady, N. Y.—This invention consists in so forming the slide valve that the steam is admitted to its inside, whereby the pressure on the upper and under sides of the valve are nearly balanced.

RESPLITTING MACHINE.—Edwin Westcott, Hudson City, N. J.—This invention relates to an improvement in the feed gear of a re-splitting machine, the feed rollers being so arranged that each pair can be moved in and out by turning a screw or other suitable means, and at the same time the connection between the feed rollers and the driving gear remains unbroken, said connection being effected by an endless screw which gears in worm wheels on the shafts of two of the feed rollers, in such a manner that the motion of said feed rollers remains unchanged whatever the position of the feed rollers may be. One jaw of the gage and one pair of feed rollers are rendered yielding by adjustable cushions placed on thin set screws, so that they can readily accommodate themselves to the varying width of the timber to be cut. The boxes of the saw arbor are so arranged that by means of a set screw the saw can be brought in an oblique position.

PEAT MACHINE.—Marvin S. Roberts, Lewiston, N. Y.—This invention relates to improvements on a machine for the manufacture of peat, secured by letters patent granted on the 15th of August, 1865.

COTTON CULTIVATOR.—Wallace & McClain, Murfreesboro, Tenn.—This invention relates to a device for cultivating cotton, and it consists in the employment of two shares arranged o operate one at each side of a row of plants, and scrape the earth therefrom, and using in connection therewith a rotary chopping wheel constructed and arranged in such a manner as to cut or thin out the plants as the machine is drawn along, the scraping and cutting or thinning out operations being performed simultaneously.

DOUBLE SHOVEL PLOW.—Jacob M. Eby, Warren, Ill.—This invention has for its object to furnish an improved double shovel plow, simple in construction, durable and cheap, and which will not be liable to weather, heat, sun crack, or break.

WASHING MACHINE.—J. S. SILLS, Cedarville, Ill.—This invention has for its object to furnish a convenient and cheap washing apparatus which may be readily attached to a wash tub, and easily removed, so that the tub can be used for other purposes if desired.

SAW SET AND GUMMER.—John Gardner, Virginia, Wis.—This invention has for its object to furnish an improved instrument for setting and gumming saws.

STOOL FOR FOR FENCE POSTS.—George Ipe, Kent, Ohio.—This invention has for its object to furnish an improved stool for fence posts, simple in construction, cheap and durable, which will not sag, and cannot be thrown up by the frost.

LOCK.—Abner S. Hardeig and Nicholas Reed, Otisville, N. Y.—This invention relates to a lock of that class commonly known as commutation locks, the operation of which depends upon the position of a series of disks which are marked on their circumference with letters or figures, and perforated with central holes and radiating slots through which the bolt slides. The bolt is composed of a bar which fits the central holes of the disks, and from which radiate arms which can be made to pass through the radiating slots of the disks, provided said disks are turned to the proper position. The disks are inclosed in a case one side of which is hinged and fastened by means of a screw which is concealed under the shackle when the device is locked. By removing the screw and opening the hinge the disks can be removed and the set of the lock changed.

FARM GATE.—Elijah C. Sears, Crystal Lake, Ill.—This invention relates to an improvement in the construction of farm gates for board fences which instead of swinging on hinges slides on rollers and guides for opening and closing.

BRACKET FOR ROOFING.—Hiram Beckwith, Grass Lake, Mich.—This invention consists in constructing from a single bar of iron a portable bracket designed for scaffolding in roofing buildings which may be used with the greatest convenience and safety.

STREET-CAR STARTER.—Thomas B, Jordan, Gloncester, N. J.—This invention relates to an improved device for starting street cars to relieve the horses of the first strain required to overcome the inertia of a standing car.

EXTENSION SCAFFOLD ELEVATOR.—Russel Loomis. Saratoga, N. Y.—This invention relates to an improved arrangement of mechanism for raising a scaffold or platform which may be applied to various useful purposes instead of a ladder, and consists in a pair of revolving disks in connection with friction rollers for opening and closing a device known as "lazy tongs" which are mounted on a portable frame moved about on wheels or in any other convenient manner.

STUFFING BOX FOR OIL WELLS.—J. B. Pettey and Jerome Fredricks, Conneaut, Ohio.—This invention relates to a stuffing box for keeping the surface water from oil wells instead of a "seed bag" now employed for that purpose.

GRAIN CLEANER.—Geo. Stevenson, Zionsville, Ind.—This invention relates to an improvement in screens or cleaners of wheat and other small grain especially designed for rubbing and scouring seed grain to free it from cockle, chess, and all other obnoxious seeds and foreign substances usually associated with and adhering to the grain causing the farmers in the Western States particularly great trouble and loss.

WAGON BRAKE.—Wiley Tash. Berlin, Ill.—This invention relates to an improvement in a wagon brake to render it self operative and consists in connecting the front axle and bolster with a sliding reach in such manner that in descending a hill the brakes or rubbers will be pressed against the hind wheels and lock or retard their movement just in proportion to the steepness of the descent and the necessity for preventing the wagon from running upon the team.

HORSE HAY RAKE.—Watson King, Springfield, Ill.—This invention relates to a device for operating a horse hay rake so that it will easily be adjusted to its work and be raised and lowered with the greatest facility, and the invention also relates to an improved manner of attaching the rake teeth to the head and also in a novel construction of the teeth

CORN PLANTER.—Wm. Hunter, Hastings, Minn.—The object of this invention is to supply the farmers in the West with a cheap and simple labor-saving implement for planting corn on the level prairie lands.

HAND LOOM.—Adam Resinberger, Brandonville, West Va.—This invention consists in erecting a post upon the cross center of a hand loom and in attaching to the said post four forked shears.

SLAT FASTENING.—Alexander Warner, Brooklyn, E. D., N. Y.—This invention relates to a device whereby slats of window blinds may be easily locked and held in any desired position by securing a bolt to one of the slats of the blind and arranging a semicircular sheet-metal plate which is attached to the frame of the blind, said plate being provided with a series of holes or recesses wherein the end of the aforesaid bolt may be held, thus securing the slats in any desired position.

CHERRY STONER.—George Geer, Galesburg, Ill.—This invention relates to a device for taking the pits or stones from the cherries leaving the pulpy portion entire or intact and which will admit of the work being done much more rapidly than by the ordinary hand process.

SMOOTHING AND POLISHING MACHINE.—S. L. Myers and George Willison, Massillion, Ohio.—This invention relates to a machine by which boards and woodwork of any description may be nicely polished and smoothed said machine being also provided with an apparatus for holding and feeding to the polishing surface such articles as spokes for wagon wheels, etc.

SHEET-METAL BOILER.—John Carroll, New York City.—The object of this invention is to so construct copper or other sheet-metal boilers such as are used in dwellings for heating water and especially that class of boilers which is stationary, arranged upon ranges and stoves, that the same may be made of sufficient strength and durability out of very thin sheet metal and that either one or both heads of the cylindrical vessel may be easily attached to or removed from the same.

HOLDER FOR CHUCH PEWS, ETC.—N. A. Wright, Prairie du Chien, Wis.—This invention relates to a device more especially intended for use in churches, halls, lecture rooms, and other public buildings and is to be applied to the back of church pews, settees, etc. This holder is intended for hats, caps, or other articles of wearing apparel, books, etc., in the pew or on such settee, etc.

SCAFFOLD.—John P. Wright, Canton Lenora P. O., Minn.—This invention consists in so constructing a scaffold that it may by means of a screw and proper gears be elevated or lowered with facility by the side of a building or any other desired place. It is peculiarly adapted to the use of builders and painters as it is portable and can be conveniently transported.

ROAD SCRAPER.—Georgh H. White, Huntington, N. Y.—This invention has for its object to furnish an improved scraper for roads by means of which the dirt may be scraped up and spread evenly over the road way or over any desired part of said roadway.

GATE.—E. R. Dobbs, Poughkeepsie, N. Y.—This invention relates to a gate, of that class which are opened automatically by a vehicle in its passage to the gate and closed automatically by the vehicle in leaving the gate after having passed through it. The object of the invention is to obtain a simple means to effect this end and one which may be economically constructed and applied and which will operate in the most efficient manner.

PARLOR SODA FOUNTAIN.—A. D. Schnackenberg, Brooklyn, N. Y.—This invention relates to a soda fountain in which the valve can be easily opened or closed and in which a very simple mechanism for operating the said valve is used.

BOLT CUTTER.—Homer H. Handy, Niles, Mich.—This invention has for its object to furnish an improved tool for cutting bolts, etc. simple in construction and reliable and effective in operation.

PULVERIZER.—J. B. Fields, Jersey City, N. J.—This invention relates to a device for crushing and pulverizing substances, reducing the same to an impalpable powder. The invention consists of a rotating hollow cylinder the inner surfaces of which is provided with a chilled cast iron or other hard substances for a crushing surface, said cylinder being provided with openings at its sides which are coverd with screens, and having within it a rotary crusher or pulverizer, the periphery of which is also of chilled cast iron or other hard substance. The crushing or pulverizing surfaces of the hollow cylinder and the crusher within it are of V-form and the former moves rather further than the latter in order to obtain a grinding action, all being so arranged that substances, however hard, such for instance as gold-bearing quartz, may be reduced or pulverized in a perfect manner.

BOILING KETTLE.—Anthony L. Whitney, Brooklyn, N. Y.—The object this invention is to so arrange a kettle for culinary purposes, that without removing the contents from the vessel in which they are held, the same may be boiled and then steamed, and kept out of the boiling water if desired.

LATCHES FOR GATES.—W. T. Wells, Decatur, Ill.—This invention consists in so hanging the latch upon the gate, that it can be adjusted to be thrown more or less into the catch or keeper provided for it, to accommodate it to the sagging of the gate.

MOP HEAD.—William A. Lewis, Springfield, Vt—This invention relates to a mop head of that class in which the movable jaw is operated by a screw. The object of the present invention is to expedite the movement of said jaw or give it a more rapid motion than hitherto, and to this end the invention consists in the application of the screws, one fixed on the end of the mop handle and the other being a tubular one provided with an internal thread to work on the fixed screw, and also provided with an external thread on which a nut connected with the movable jaw works.

HAND SEWING MACHINE.—B. W. Collier, Oxford, Mass.—This instrument is held in the hand and operated by means of handles similar to those of a pair of sheares; it can be easily carried from place to place and is of simple and durable construction.

Answers to Correspondents.

CORRESPONDENTS who expect to receive answers to their letters, must, in all cases, sign their names. We have a right to know those who seek information from us: besides, as sometimes happens, we may prefer to address the correspondent by mail.

SPECIAL NOTE.—This column is designed for the general interest and instruction of our readers, not for gratuitous replies to questions of a purely business or personal nature. We will publish such inquiries however, when paid for as advertisements at 50 cents a line, under the head of "Business and Personal."

E. H., of Ill.—We know of no better and cheaper cement for an aquarium of tin or zinc frame than one of red and white lead, equal parts, mixed to a putty-like consistency with boiled linseed oil. If the joints are brought together and secured while dry for a day it will not be affected by water.

B. and E., of Wis.—We cannot give a reply to your question as to grate surface and hight of chimney unless we know the diameter as well as the length of your boiler, and the situation of your manufactory as to the hights in its vicinity, as regards the dimensions of chimney. We intend to publish an article on setting boilers, such as you suggest, very soon.

N. J. L., of Pa.—A belt on a smooth surfaced pulley is more effective than on a rough pulley because it has adhesion to a larger surface. It is reasonable in theory and efficient in practice.

J P. H., of Mass.—The toy marbles generally used are made argely in Saxony. They are chipped into cubes from a hard calcareous stone by the hammer, and then placed in concentric furrows cut in a fixed slab of stone over which a platform of hard wood is revolved, while water is kept flowing on the stone. A very few minutes serves to give the cubes the form of perfect spheres.

J. P., of Mount Jackson.—Marble is polished by oxides of lead or tin known as "marble putty." That of tin is the best and is prepared by dissolving tin in nitro-muriatic acid, and after filtering, precipitating the oxide by ammonia. It is then collected, washed with water, and pressed dry in a cloth filter. Afterward it is broken up, dried in the air, powdered on a glass plate, and heated in a crucible to a white heat. It can be obtained, ready prepared, of any marble worker.

J. S. P., of Col.—We cannot supply the numbers of the SCIENTIFIC AMERICAN you wish.

C. E., of N. Y.—We are not acquainted with the method of producing the high polish on the fine steel work of watches. We suppose it to be by the use of crocus and rouge on the buff wheel and revolving brush or by hand, as the shape of the article demands. Probably some of our correspondents can answer the question.

T. A. M., of N. J.—If your tank is of equal diameter from end to end multiply the area of a cross section by its hight in inches and you have the square inches. Divide the product by 144 and you have the square feet. If your tank is a frustrum of a cone—larger at the bottom than the top—find the area of each end and add them together and multiply by the slant hight. The area of a circle is its diameter multiplied by 3.1416. The reduction from inches and feet to gallons you can find in any hand book of mechanics or arithmetical treatise.

C. J. B., of N. Y., asks what is the extreme length, breadth, and hight above high water of the suspension bridge at Cincinnati, Ohio. We reply that the total length, including approaches from Front street, Cincinnati, Ohio, and Second street, Covington, Ky., is 2,252 feet; length of main span from center to center of towers, 1,057 feet; of each land suspension, 281 feet; width in the clear, 36 feet; hight above low water 100 feet. Our correspondent may know the difference between low and high water, and if so he will have a complete reply to his question.

T. P. H., of N. Y.—We think the largest water wheel in this country is one running at Troy, N. Y., which is over sixty feet in diameter.

D. S., of N. Y.—A "back action" engine is one in which the cross head is beyond the crank, or the crank is between the crosshead and cylinder. The object is to get long connections with a compact engine. It is in great favor for thwartship propeller-engines and is used occasionally for stationaries. It is simply one of the many modifications of the form and arrangements of engines, hardly any two of which are alike. There is no necessity of our "ventilating" so familiar a subject through our columns; most mechanics thoroughly understand it.

R. W. T., of Ky., desires to know something about the manufacture and makers of coiled springs. Coiled and spiral springs are merely wound, one of flat steel or brass and the other of round steel, iron, or brass It is a process any machinist can perform, and we are not aware that there can be any secret in the manufacture.

J. B., of S. C.—Ordinary soft solder will fasten the ribs of gun barrels without the heat necessary for brazing. Clean the barrel and rib from grease and wash with dilute muriatic acid, then tin both with solder and proceed as in soldering tin.

S. J. H., of Ill.—Crank pins or any journals of wrought iron may be faced with steel by welding a sleeve of steel over the iron with borax, or, if the work admits, boring the sleeve, turning the iron and shrinking the sleeve on.

C. M., of Col.—Packing rings for steam cylinder pistons are largely made of cast iron. We have seen them made of steel, and also of brass filled in with Babbitt metal, but we think steel packing rings are not now used. The springs are of steel. The disagreement between you and your opponent probably arises in a misunderstanding as to the terms "ring" and "spring."

J. K., of Ill.—Boulton and Watt's rule for finding the sectional area of a flywheel per horse power is: "multiply 44,000 times the length of the stroke in feet by the square of the diameter of the cylinder in inches, and divide the product by the square of the number of revolutions per minute, multiplied by the cube of the diameter of the fly wheel in inches. The result and number will be the proper sectional area of the fly wheel rim in inches." For further particulars and examples we refer you to Bourne's Hand Book on the Steam Engine page 229. . . We cannot understand how Ebaugh's boiler annealing is applicable to multitubular boilers.

J. H., of N. Y. says, in reply to P. Y. on the "Crank Motion" in our issue of March 30th: "As the distance traveled by the four feet crank in one-half a revolution (12·58 feet, is to that of the piston (8 feet) in the same time, so is the length of the crank (4 feet) to the average leverage, (2·54) feet. J. L. F., of Ohio, says: seven tenths of the distance between center of shaft and of crank pin will give the average leverage of a crank; in this case, of a four feet crank, the distance being 33 6-10 inches, the average leverage.

G. W. T., Wheeling, W. Va.—Metaphysical and ontological disquisition lie not quite near enough to the practical interests of mankind for our purposes. Besides, they require, from their nature, a great deal of room, which is out of the question in a newspaper.

J. W. B., of Miss.—The rank and persistent odor of ordinary benzine is due to matter which is foreign to the pure article. The ordinary essential oils will easily disguise the odor of a well manufactured article. The red coloring matter of most of the preparations for the hair is extracted from alkaret roots.

D. C., of Mass.—To prepare bichromate of ammonia, add a solution of chromic acid to aqua ammonia till the odor of ammonia disappears; thus you have chromate of ammonia. Now add as much chromic acid as you have already used, and you have a solution of bichromate of ammonia. By slow evaporation you may obtain the salt in crystals.

J. S. L., of N. C.—We still consider Appleton's Cyclopedia one of the best works of the kind extant. . . . Your description of what you want is so imperfect that we cannot help you. We know of no spectacles which are at the same time adaptable to near and long sightedness.

C. T. H., of O.—There are electro platers who find it most convenient to strengthen their solutions by dissolving the metal by means of the battery. It is a very good plan when the battery can be spared for the purpose.

R. P. V., of Md.—The gases used for the lime light at the theaters of this city are condensed into wrought iron cylinders.

E. F. K., of C. W.—"Does the face of the river St. Lawrence maintain a level from its source to its outlet, if we except the perceptible declines"? Water never runs up hill. The outlet must be lower than the source. The outlet of the Mississippi is said to be further from the center of the earth than some of its sources, so that to suit the case of the Mississippi we must give a limited signification to the expression up hill. As the outlet of the St. Lawrence is northward of its source, the outlet might be a trifle lower than gravity alone would bring it.

Business and Personal.

The charge for insertion under this head is 50 cents a line.

EXTENSION NOTICE.

William E. Ward, of Port Chester, N. Y., having petitioned for the extension of a patent granted to him the 28th day of December, 1852, for an improved method of heading screw blanks, rivets, etc., for seven years from the expiration of said patent, which took place on the 28th day of December, 1866,—this application having been authorized by Act of Congress,—it is ordered that the said petition be heard at the Patent Office on Monday the 24th day of June next