

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 57,462.

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 resplitting 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 to 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 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, Gloucester, 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. Pettet 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, chaff, 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 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, Massillon, 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 CHURCH 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 be 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.—George 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.

PABLO SODA FOUNTAIN.—A. D. Schrackenberg, 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 substance for a crushing surface, said cylinder being provided with openings at its sides which are covered 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 of 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 shears; 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 height of chimney unless we know the diameter as well as the length of your boiler, and the situation of your manufactory as to the heights 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 or 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 finest 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 height 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 add them together and multiply by the slant height. The area of a circle is its diameter multiplied by 3.1416. The reduction from inches add 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 height 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 2,253 feet; length of main span from center to center of towers, 1,057 feet; of each land suspension, 281 feet; width in the clear, 96 feet; height 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 stationary engines. 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 multi-tubular 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 (258 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, (254) 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 Cyclopaedia 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.

Manufacturers of golden sulphuret of antimony for coloring rubber please address P. O. Box 397, New Brunswick, N. J.

A "subscriber" wants to know where the "Stark Mills" bag is made, and by whom.

Manufacturers of No. 22 Brass Chain send address and price to J. Gurd & Son, London, C. W.

A. Fellows, Mayuoketa, Iowa, has a valuable patent with no means to improve it. Wishes to correspond with men of capital with a view to have them furnish means for a share. \$5,000 sufficient. A splendid opportunity.

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, 1859,—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.

Improved Automatic Lathe.

The engravings herewith given represent a very ingenious machine for turning beaded and plain wood work, for handles, chairs, settees, spokes, stair railings, and many other purposes. It is compact, direct acting, and certain in its operation. It will cut or plane in asquare, octagonal, or any polygonal form, and turn plain or beaded at the same operation. Fig. 1 is a perspective view of the complete machine, and Fig. 2 the working side of the head for turning the round work.

The machine is driven by the lower shaft, which, by means of belts, gives motion to the cutter head, A, and the cone pulley, B. It also, by suitable connections, revolves the cutter heads, C. The head, A, turns loosely on a hollow arbor which is fitted with dies of different form to guide the work. In Fig. 1, the die shown is square to accommodate the square piece seen passing between the feed rollers, D, in Fig. 1. One of these rollers is toothed and the other plain. They are adjusted by springs to open or close together to admit the work to be turned, and they feed it to the heads, C, which also can be similarly adjusted. From these cutters the wood passes through the hollow stationary arbor and is turned by the cutters on the head, A. These cutters are V-shaped as seen in Fig. 2 at E. The cutters are secured by hook bolts to bell cranks, F, pivoted at the junction of the angles, and held pressed in toward the center of the wheel by springs, G. The outward movement of the cutters is assured by dogs attached to the crank levers, F, by means of slots through the pulley. These dogs connect with a lateral sliding bar, not shown, the end of which engages with the pattern plate secured to the large worm gear, H, seen in front of the machine, Fig. 1. This pattern is of sheet steel or iron, the edge formed to present a section of the work to be done, and one can be changed for another at will. The wheel carrying this pattern is driven by one of the worms on the front horizontal shaft, the other driving the feed wheels, D. This shaft is driven by the cone, B, with the aid of bevel gears, as seen, which may be thrown in or out of gear, as desired, to actuate or stop the feed rollers or the pattern wheel. This is done by a lever operating a clutch in the usual manner.

A stick may be introduced into the machine between the feed rollers, D, and pass to the cutters, C, which may be of and shape to give the form required; thence through the die in the hollow arbor until the cutters on the head, A, engage with it and turn it to any form desired, their motion to or from the center being controlled by the action of the pattern on the rod, which opens them, and the pressure of the springs, G, which close them.

This machine is the subject of a patent issued Aug. 24, 1858. A patent is also pending through this office on other improvements. For further information address Frederick Baldwin, Brattleboro, Vt.

American Iron Manufacture.

The statistics presented at the last meeting of the American Iron and Steel Association show a product for 1866, in pig iron of nearly a million (939,956) tons; in rails, new and re-rolled, of 339,764 tons; in nails of 129,858 tons; in castings (over 10 lbs. weight), 946,613 tons, etc. The following is the complete table, in which the very large import strikes the eye, the native product of pig iron being overbalanced by the castings alone:—

	Tons of
Pig iron of all kinds	2,000 lbs.
Rails, new and re-rolled	339,956
Iron advanced beyond blooms, slabs and loops, but not beyond bars	184,751
Bars and rods made from iron on which a duty of \$3 has been paid	23,073
Blooms, slabs and loops	14,516
Band, hoop and sheet (all sizes)	142,829
Plate iron (all sizes)	57,771
Rivets, nuts, washers and bolts	29,251
Cut nails and spikes	129,858
Castings for bridges and other prominent structures	33,309
Castings exceeding 10 lbs in weight	946,613
Stoves and hollow ware	82,605
Iron advanced beyond blooms, slabs, etc., the duty to which it was liable in the forms of blooms, slabs, etc., not having been paid	18,555
Wrought railroad chairs, etc.	17,265

A comparative view of the proportion of the several states in the above product will be found interesting, as follows:—

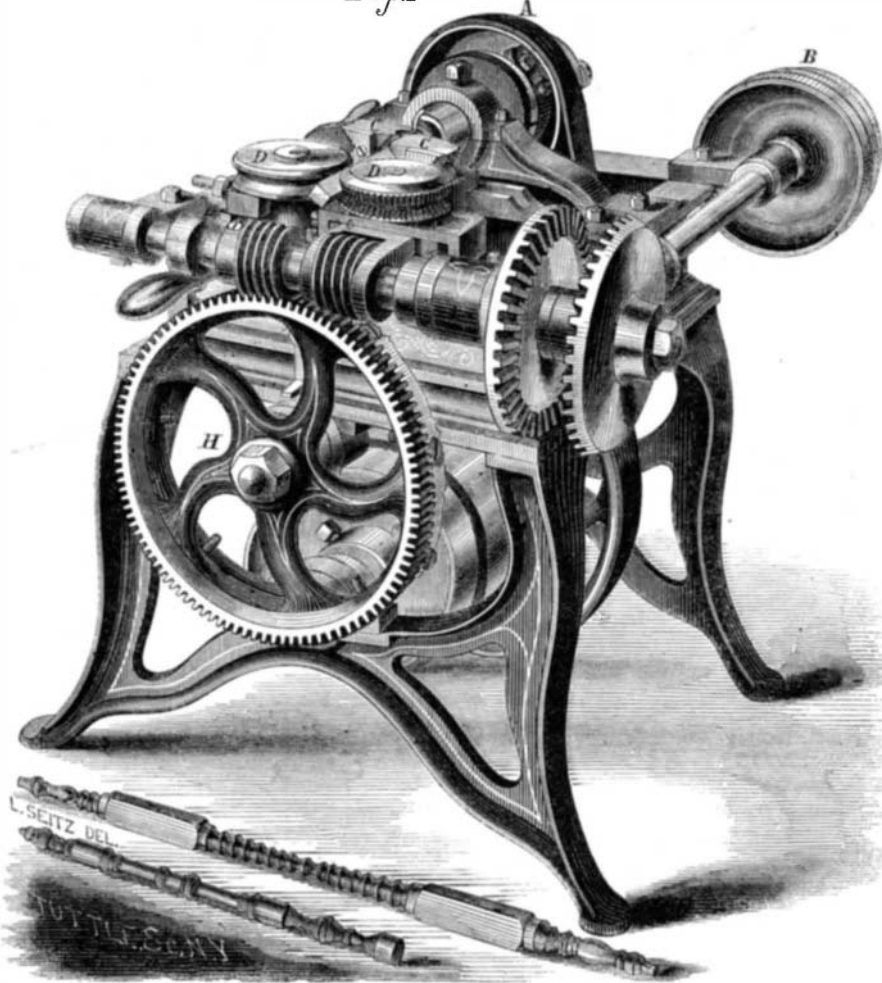
Of the 939,956 tons of pig iron made,	Tons.	Of the 339,764 tons of rails there were produced in	Tons.
Pennsylvania produced	197,584	Michigan	11,003
Ohio	118,498	New York	9,238
New York	23,565	Illinois	4,646
New Jersey	23,768	Massachusetts	29,573
Maryland	27,080	Ohio	26,117
Michigan	15,823	Indiana	15,021
Connecticut	14,208	Massachusetts	11,126
Missouri	14,046	Kentucky	9,733
		Vermont	3,743
		Wisconsin	2,389
		Tennessee	1,171
		West Virginia	757
		Virginia	474

Pennsylvania	180,854	Michigan	11,003
New York	54,416	Kentucky	9,238
Illinois	47,646	New Jersey	5,023
Massachusetts	29,573	Tennessee	3,448
Ohio	26,117	Maryland	3,279
Indiana	15,021	West Virginia	6,318

Medical Education.

Dr. McDermott, Surgeon General of Ohio, says of the candidates for army surgeons in the late war, that none but graduates of regular medical schools were admitted to examination, and yet over eighty per cent of these were rejected for incompetence. The ignorance betrayed by many of the candidates was deplorable, proving that the diploma of a medical college has ceased to be of any value as evidence of capacity. Of course this per centage does not indicate the condition of the medical profession, but only of the dregs, or at least the rawest portion of it, seeking employment for want of practice; but it proves that the title of "M. D." is worse than useless as now administered, to indicate the learned in medicine. The suggestion of Dr. Butler in the *Medical and Surgical Reporter*, commends itself strongly in this state of things. It is that the American Medic As-

Fig. 1

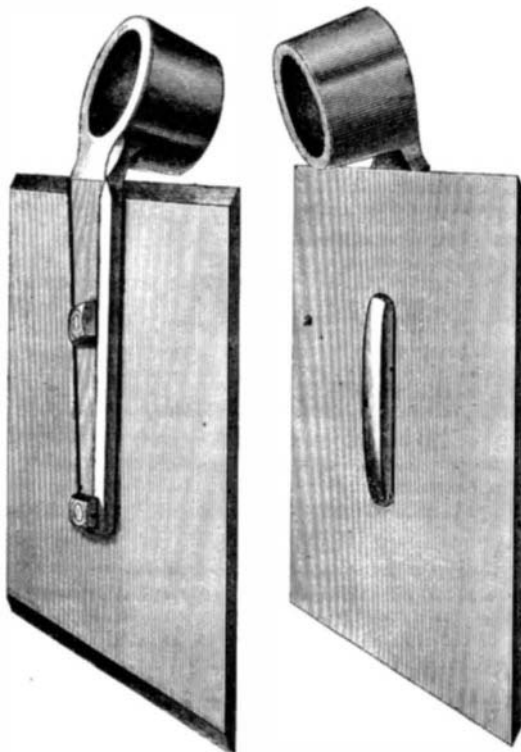


BALDWIN'S LATHE FOR TURNING ORNAMENTAL WORK.

sociation should take this matter out of the hands of the multiplying and easy-going medical colleges, by appointing Examining Boards with authority to review the pretensions of all practitioners within their respective districts, and on whose report the Association shall act in according or withholding the degree of Member of the American Medical Association, as a universal substitute for the abused and worthless "M. D." Of course the cabalistic letters would be the initials of some Latin synonym of the above title, as the letters M. A. M. A. do not spell the right designation for a regular doctor.

ROSE'S REVERSIBLE HOE.

"Dull as a hoe" is an old-fashioned saw, but has hardly the force of truth in these times of improvement, when a sharp



edge and a steel plate is considered so necessary to the efficiency of this agricultural implement. A dull hoe is a poor tool to

work with, and if there can be two edges to a hoe so that when one is dulled the other may be in good order, something is gained in the saving of time. There have been hoes made double bladed so as to be reversed at will, but the unused side threw the other out of balance and interfered with the proper "hang" of the blade.

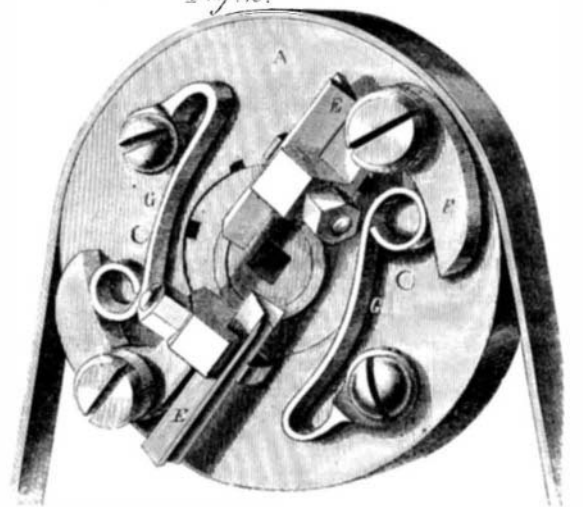
The device seen in the engraving is intended to obviate these objectionable features, and would seem to be effectual. The eye has a shank which passes part way across the blade and is secured with bolts and nuts. A strengthening piece is attached to the face of the blade which holds the bolts, and may be made a part of the blade or secured to it in any proper manner. The bolt holes are so spaced that they fit the bolts equally well when either edge is down. No further description is necessary for a proper understanding of this improvement.

It was patented through the Scientific American Patent Agency, January 1, 1867, by C. A. Rose, of Columbus, Ga. For additional particulars address Thomas G. Orwig, at 119 Nassau street, New York City.

THE CASHMERE OR ANGORA GOAT.

The valuable and elegant shawls imported into this country from Turkey and other localities in Asia, and often styled camel's hair shawls, are made from the wool of the Cashmere, Angora, or Thibet goat, as they are indifferently styled. Probably there is no generic difference between those bearing these separate names, the variation in their points being the result of difference in climate and cultivation. These shawls, when genuine, are held at high prices, being often estimated by thousands of dollars. Attention was first directed to them by the forwarding of one to Paris by the commander of the French expeditionary army to Egypt under the first Na-

Fig. 2



oleon. A single fine shawl sometimes employs the labor of four persons for a whole year. The English obtained them from India. The best are worth at the place of production from \$500 to \$800. The ordinary qualities have been and still are imitated in France on the Jacquard loom. In the fine, genuine Cashmere the figures are produced in the same colors and precisely alike on both sides. Imitations of these are rarely attempted on account of their cost.

The goats were first brought to France in 1819, from thence they were introduced into England. In 1849, Dr. James B. Davis, of Columbia, S. C., procured seven females and two males of the pure Angora breed, and since then they have been largely raised in many states, especially in the West. In Ohio alone, during the past six months, at least \$100,000 have been paid for these goats. The fleece of these goats is from eight to fourteen inches long, a specimen now before us, not selected, measuring over twelve inches. It cannot be called a wool, as it is mainly a mass of nearly straight, very fine hair, with a brilliant silky luster. It resembles the silk as generally imported from China and Japan, and is white or nearly so. The goats are shorn twice a year, are hardy, prolific, and in addition to the value of their fleece are excellent for the table.

This silky hair is not, however, all the material of the fleece. Next the skin is a down of wool so fine that ordinary wool is not to be compared to it. From this the delicate fabrics of Asia are produced. Fine specimens of the animal are raised in this country and sold not unfrequently at prices varying from \$800 to \$1,500. It appears that we have as yet no proper machinery for the manufacture of the fleece into the most valuable products. The hand process in use in Asia, where the labor costs only from three to twelve cents per day, is impossible here. Dress goods can be readily produced on our present machinery, but at considerable waste of material.

Mr. Israel S. Diehl, for many years our consul at Batavia, has been commissioned by our Government to proceed to Europe and Asia for the purpose of investigating the modes of manufacture and selecting for this country a number of the most valuable animals. The attention of our mechanics and inventors is directed to the production of suitable machinery to render more valuable this superior material of manufacture. Communications seeking information may be addressed to Charles S. Brown, President of the American National Bank, No. 80 Broadway, New York City.

SWANN'S SAFETY VALVE.—In our description of this valve in No. 15, current Vol. an error occurs in the address of Messrs. Teschemacher & Stearns. It should be No. 13 Exchange street, Boston, Mass.