

a vague and general way, but we have not before met with so specific a statement as the one under review. Doubtless there are many iron masters in the country who have data to test the correctness of the figures given; but should some errors be found the margin of difference is so large that some radical miscalculation could only account for it, if the advantages claimed do not fully cover it.

Granted that the statements are reliable, and it follows that the future has large things in store for Nashville, capitalists are not blind, and the iron masters of this country are inferior in sagacity to no other class of manufacturers.

HOW TO FILE AND SET A SAW.

When Dan Rice invented that famous joke about "the greatest saw to saw that he ever saw saw," certainly the saw that he saw saw bore no sort of resemblance to many of the saws which we see saw. Saws that saw one's nerves as well as the timber, screeching and gnawing through wood instead of cutting it smoothly and sweetly, that make one's back ache to witness their operation, and heart ache to witness the useless expenditure of power and labor in much of the work performed by this useful and, when properly made, filed, and set, most effective tool.

A saw is a series of cutters, arranged either in one line or in two lines, according to the work to be performed; and all saws used in wood work (and it is such of which we speak) may be included in two classes—those which cut across the grain and those which cut lengthwise of the grain. The latter class has its teeth or cutters formed so as most to resemble a narrow chisel or plane bit. The teeth of the former class may be regarded as knives which cut, or ought to cut the sides of the kerf smoothly at the same time that they force out or split off the intervening wood.

Many mechanics are accustomed to take their saws to a professional saw filer and setter, acknowledging their own inability to perform the operation as it ought to be done, and preferring to incur expense rather than use a badly-sharpened tool. There is no necessity for this, and any man of ordinary intelligence and skill in the use of tools may easily acquire the simple art of saw filing and setting.

In order to do this, the following points must be observed: The teeth in cross-cut saws ought to cut both ways in traversing through the wood, and the teeth of both cross-cut and rip-saws should be as near as possible of equal length and sharpness. The bevel on the tooth should be more acute for soft than for hard wood. In order to secure the same bevel on all the teeth of a cross-cut saw the file must be held at the same angle in filing each tooth, and if the saw has been previously well filed, the same number of strokes of the file will be required for each tooth, provided an equal pressure is maintained.

If the teeth are uneven in length, their points ought to be first leveled with a flat file, and the beveling be subsequently governed by the point. As soon as the point becomes well defined on each tooth, provided the proper bevel has been maintained throughout, the operator should proceed to the next tooth, and so on.

The saw should be filed from the handle toward the point, as in no other way can a proper bevel be obtained and maintained throughout. If a cross-cut saw be found a little high in the middle, it may still work well, but in no case should it be lower in the middle than at the ends. The feather should be taken from the sides of the teeth by a straight, flat file, or a whetstone with a plane surface, laid along the sides of the teeth, and drawn smoothly along without much pressure. This may be done after the setting.

A rip saw will be found to work better in all kinds of wood if filed a trifle beveling, although in perfectly straight-grained wood it will work well if filed straight across. This bevel is best given to the teeth of these saws after they are set, the file being held at right angles to the teeth. Hard wood requires more bevel in the teeth of a rip saw than soft wood.

The setting of a saw is a matter of great importance. A large proportion of the power required in working a saw is caused by the friction of the plate on the sides of the kerf, and it is the object of setting to lessen this friction by increasing the width of the kerf. The making of saws thinner at the back than at the cutting edge is sound in principle, and saves much power that would otherwise be expended in friction.

A difference of opinion prevails among mechanics about the best way to set saws, some maintaining that the hammer and punch are superior to any of the patent setting tools now in use. A series of experiments which we saw performed some years since convinced us that the hammer and punch were imperfect tools for this purpose, although there is no doubt that the principle of the hammer and punch, as applied in some of the saw-setting tools which have been invented, is the best. A tooth bent and set by a blow will remain where it is put. This, on the contrary, cannot be said of teeth which are bent by sets which act on the lever principle. Nevertheless, we have seen saws very perfectly set by the latter kind of tools. Whatever means are adopted uniformity is the object to be secured; the amount of set required being dependent, of course, upon the nature of the work the saw is intended to perform, and therefore a matter to be left to personal judgment.

APPLICATIONS FOR EXTENSION OF PATENTS.

HORSE POWER.—Samuel Pelton, of Chester, Ill., has applied for an extension of the above patent. Day of hearing Dec. 6, 1869.

COTTON SEED PLANTER.—A. W. Washburn, of Yazoo City, Miss., has applied for an extension of the above patent. Day of hearing March 7, 1870.

THE TORPEDO PATENT CASE.

IMPORTANT DECISION IN THE U. S. CIRCUIT COURT BY JUDGE GRIER.

E. A. L. Roberts vs. The Reed Torpedo Company et al.—Within the last few years the production in oil wells has been greatly increased by lowering down into them large iron flasks containing from 6 to 10 pounds of gunpowder or nitro-glycerin, and then exploding the mass by means of a percussion cap on the top of the flask, on to which cap a weight was dropped from the top of the well.

It was established by proofs in the case that most remarkable results had been produced in the oil region by the introduction of the torpedo by Mr. E. A. L. Roberts, the plaintiff. Thus in the Eureka well, which was producing only three barrels a day, a Roberts torpedo was exploded, and its production was increased to 180 barrels a day. Hyner well was increased from 2 to 30 barrels per day, Keystone well from 5 to 175 barrels per day, Nellie well from 3 to 80 barrels per day. Farr Homestead well was increased 65 barrels per day. Keystone well from 15 to 200 barrels per day.

These were only a few out of numerous cases where Roberts had succeeded. The annual production of oil due to the use of the torpedo was admitted by defendants in their argument to already have reached several millions of dollars. After Roberts had succeeded in introducing his invention a man named Reed, of Titusville, united with a former agent of Roberts, named Marston, and set up a claim as a rival inventor to Roberts.

They organized the "Reed Torpedo Company," the object of which was to make and sell to oil men torpedoes at a low rate, and to defeat Roberts' patent. The defendants based their claim upon certain trials made by Reed of torpedoes in 1853. The defendants did not deny that they were infringing the Roberts patent, but insisted that it was void by reason of what Reed had done.

The plaintiff contended that Reed was merely an unsuccessful experimenter, who had abandoned his torpedo as worthless before Roberts' patent was issued.

The oil men united with defendants to defeat the patent, and raised a large fund. They were represented at the argument by Charles M. Keller, of New York, Hon. S. A. Purviance, and B. F. Lucas. Roberts, the patentee, was represented by Bakewell & Christy, of Pittsburgh, and George Harding.

Judge Grier yesterday delivered the following opinion, deciding in favor of the validity of plaintiff's patent, and granting a perpetual injunction:

OPINION.

As I write with difficulty I can only state the conclusions to which my mind has come after a careful examination of this case.

The complainant has exhibited a patent dated 25th April, 1865. This is *prima facie* evidence of a good title, and puts on the respondents the burden of proof that the patent is void or worthless.

I need not repeat my remarks in the case of *Goodyear vs. Day* (2 Wall, C. C. Rep. 299), but now adopt them as affording a rule of decision which applies clearly to the present case.

As the infringement of the patent is admitted, the only question will be as to the validity of complainant's patent of April 25, 1865.

"It was attempted to show that the patent was not a discovery, and after repeated experiments, that the complainant succeeded in overcoming the prejudice and ignorance of the people on the subject, and persuading the public that his invention was useful; after he had established its great utility and value; and when his genius and patient perseverance, in spite of sneers and scoffs," were completely successful, that Reed, who had before made experiments on the same subject, and was wholly unsuccessful, imagined that he had the best right to the invention, and after purchasing one or more of complainant's torpedoes, he applied on the 1st of November, 1867, for a patent for substantially the same combination of devices or machines contained in complainant's patent. On the 15th of the same month the respondents formed themselves into a company or corporation called "The Reed Torpedo Company," for the purpose of pirating the complainant's invention, and supporting the expense of litigation, and thus depriving him of its fruits. They have persevered, even after the preliminary injunction very properly granted by the District Judge.

Let a decree be entered for complainant for a perpetual injunction, and let a master appointed to take an account according to the prayer of the bill.

R. C. GRIER, Circuit Judge.

NOTE.—The passage referred to by Judge Grier in his former decision, 2 Wallace, p. 299, adopted as applicable to this case, was as follows: "It is admitted in this case, as in every case, that a discovery is made, or any new machine of great utility has been invented, that the attention of the public has been attracted to the subject previously, and that many persons have been making researches and experiments. Philosophers and mechanics may have in some measure anticipated in their speculations the possibility or probability of such discovery or invention; many experiments may have been made, and many failures have been incurred, and many short of the desired result. They have produced nothing beneficial. The invention, when perfected, may truly be said to be the culminating point of many experiments, not only by the inventor, but by many others. He may have predicted indirectly by the unsuccessful experiments and failures of others, but it gives them no right to claim a share of the honor or the profit of the successful inventor. It is when speculation has been reduced to practice, when experiment has resulted in discovery, and when that discovery has been perfected by patient and continued experiments, when some new compound, art, manufacture, or machine has been thus produced which is useful to the public, that the party making it becomes a public benefactor and entitled to a patent. And yet when patient perseverance have at length succeeded, in spite of sneers and scoffs, in perfecting some valuable invention or discovery, how seldom is it followed by reward! Envy robs him of the honor, while speculators, swindlers, and pirates rob him of the profits. Every unsuccessful experimenter who did or did not come very near making a discovery now claims it. Every one who can invent an improvement, or vary its form, claims a right to pirate the original discovery. We need not summon Morse, or Blanchard, or Woodworth, to prove that this is the usual history of every great discovery or invention. "The present case adds another chapter to this long and uniform history."—2 Wallace, C. C. Reports, p. 299.

Business and Personal.

The Charge for Insertion under this head is One Dollar a Line. If the Notices exceed Four Lines, One Dollar and a Half per line will be charged.

Send for Agents' Circular—Hinkley Knitting Machine Co., 176 Broadway.

To Inventors—Garrison's Model and Exchange Rooms for exhibition of models and sale of rights for the Northwest, No. 5 Arcade Court, Chicago. The largest establishment of the kind west of New York.

For Sale—A valuable pat for a composition for covering boilers, steam pipes, etc., E. D. & W. A. French, 3d & Vine sts., Camden, N. J.

See Gray's Oiler for loose pulleys, in operation at the American Institute Fair, near the Corliss Engine.

Cradle-finger Machine wanted by Smith & Montross, Galien, Mich. Engine, Turbine, and Flouring Mill Manufacturers send price and circulars to W. N. Winfrey, Apple Grove, Ala.

For Sale—A small Machine Shop and Foundry in a good locality. For particulars address K. G. Cooper, Jefferson City, Mo.

Peck's patent drop press. Milo Peck & Co., New Haven, Ct.

The Best and Cheapest Boiler-flue Cleaner is Morse's. Send to A. H. & M. Morse, Franklin, Mass., for circular. Agents wanted.

See American Meat and Vegetable Chopper on last page.

A Rare Chance. Terms Reasonable.—Foundry and Machine Shop to Lease, for a term of years, in Galveston, Texas, the best location in the South. Address M. L. Parry, Galveston, Texas.

Union Arm Chairs, for hotels, offices, piazzas, and all places. Best in market. Made upon honor. Send for circular. F. A. Sinclair, Mottville, N.Y.

Koch's Patent on shelving for stores is offered for sale—entire or State Rights. See illustrated description, Vol. XXI, No. 14, Scientific American, for particulars. Address Wm. & Geo. Koch, Cass Postoffice, Pa.

Wanted—A set of the best new machinery for converting standing trees into short, split firewood. W. H. H. Green, Jackson, Miss.

For Machine for cutting green corn for canning or drying, address F. Lewis or Isaac McLellan, Gorham, Me.

To Manufacturers—For sale, a new 3-story stone building 60-ft. by 30-ft., with never-failing water-power. Facilities for shipping unsurpassed. Inquire of F. A. Sinclair, Mottville, Onondaga Co., N. Y.

Clothes Wringers of all kinds repaired or taken in part pay for the "Universal," which is warranted durable. R. C. Browning, Agent, 32 Courtland st., New York.

For Sale—Cotton Planter.—The entire right of the King Cotton Planter—the only successful in use. Have been worked since the war, and given universal satisfaction. The machine is simple, strong, and can be built cheaply. Will sell at a low figure. Reason for disposing of it is want of time to give it proper attention. Address S. N. Brown & Co., Dayton, O.

Hot Pressed Wrought Iron Nuts, of all sizes, manufactured and for sale at moderate prices by J. H. Sternbergh, Reading, Pa.

Vols., Nos., and Sets of Scientific American for sale. Address Theo. Tusch, No. 37 Park Row, New York city.

Cold Rolled—Shafting, piston rods, pump rods, Collins pat. double compression couplings, manufactured by Jones & Laughlins, Pittsburgh, Pa.

Man'rs of grain-cleaning machinery and others can have sheet zinc perforated at 2c. per sq. ft. R. Aitchison & Co., 545 State st., Chicago.

Send for a circular on the uses of Soluble Glass, or Silicates of Soda and Potash, fire and water-proof. Manufactured by L. & J. W. Feuchtwanger, Chemists and Drug Importers, 55 Cedar st., New York.

Mill-stone dressing diamond machine, simple, effective, durable. Also, Glazier's diamonds. John Dickinson, 64 Nassau st., New York.

Leschot's Patent Diamond-pointed Steam Drills save, on the average, fifty per cent of the cost of rock drilling. Manufactured only by Severance & Holt, 16 Wall st., New York.

For solid wrought-iron beams, etc., see advertisement. Address Union Iron Mills, Pittsburgh, Pa., for lithograph, etc.

Machinists, boiler makers, tanners, and workers of sheet metals read advertisement of the Parker Power Presses.

Diamond carbon, formed into wedge or other shapes for pointing and edging tools or cutters for drilling and working stone, etc. Send stamp for circular. John Dickinson, 64 Nassau st., New York.

Recent American and Foreign Patents.

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

BOLT FEEDER.—Oscar Van Tassel, Naperville, Ill.—This invention has for its object to furnish an improved device, by means of which the flour or meal is fed faster or slower to the bolt, as may be desired, and which shall, at the same time, be simple in construction and easily operated.

SPRING BED BOTTOM.—D. M. Bye, Roanoke, Ind.—This invention has for its object to furnish an improved adjustable spring bed bottom, which shall be simple in construction, strong, durable, and elastic in use, which can be readily attached to any bedstead and which can be made and sold for a comparatively small amount.

PLOW.—J. C. McVitt and A. B. Furman, Strattonville, Pa.—This invention has for its object to furnish an improved plow, which shall be so constructed and arranged as to be of lighter draft, and more efficient in operation than the plows constructed in the ordinary manner.

WHEELBARROW.—B. W. Tuthill, Oregon City, Oregon.—The object of this invention is to construct wheelbarrows with metallic frames, metallic boxes, or trays, and also with certain improvements in the construction and arrangement of the hubs of the wheels, all designed to provide cheaper and more durable wheelbarrows than when made of wood in the common way.

FEEDING APPARATUS FOR CARDING MACHINES.—A. A. Dow, Glenham, N. Y.—This invention consists in providing the toothed or spiked feeding strap, on the short side of the said feeding device, with operating devices having "positive" movements; also, in providing the rollers of the traveler, which lays the roving, with means for operating them positively.

PRESS.—W. J. McDermott, Covington, Tenn.—This invention relates to improvements in presses for hay, cotton, and the like, and has for its object to provide a simple and convenient arrangement for changing the application of the power when the resistance increases to give a greater force the speed being decreased.

STOP VALVE.—John Paterson, Troy, N. Y.—This invention comprises a pair of sliding valves, suspended from a screwed stem working up and down in a chamber at the ends of two pipe connections, and a cam arrangement between the saw valves, by which, when they have arrived at their seats on the ends of the said pipes, they are pressed down tightly thereon, and which releases the said pressure as soon as the valve stem is raised a small amount in the direction for opening the valves.

CORN HUSKER.—Elihu Field, Geneseo, Ill.—This invention consists in the arrangement of the shank of a bent pointed metallic instrument, to be held in the hand so as to pass in a straight line across the inside of the fingers and terminate in a bow for taking in the three fingers, beginning with the little finger, leaving the fore finger free for independent action with the thumb.

HEATING FURNACE.—A. L. Otis, Normal, Ill.—This invention consists in certain improved arrangements of the covers of horizontal furnaces, calculated to secure the heating of the air as much as possible before passing off through the conducting pipes; also, certain improvements in the construction of the valves of the furnace, calculated to give out more heat by radiation and by convection; also, certain improvements in the arrangements of the grates, and, also, certain improvements in means for heating the air previous to supplying the fire.

SHAFT COUPLING.—Edward G. Shortt, Carthage, N. Y.—The object of this invention is to provide an improved mode of coupling shafts together, and comprises a pair of curved wedges, a sleeve, a pair of set screws, and radial pieces in the shafts, which are used by placing the wedges, which have semicircular grooves propelling the shafts, on the two sections to be joined together, and placing the sleeve over them, to which they are fitted, and then screwing the set screws through the side of the sleeve into conical recesses in the said wedges, to clamp them tightly between the shafts and the interior wall of the sleeve.

RAT TRAP.—J. Ward Fifield, Franklin, N. H.—This invention consists of a double walled vessel, which may be either square or round, with inclined passages between the walls leading from openings in the exterior wall near the bottom of the interior chamber, through other openings in the interior walls, the interior openings being provided with doors which open readily inward to the animals seeking ingress, but close effectually against their efforts to get out.

LOCKING WHIP SOCKET.—W. S. Hill, Manchester, N. H.—The object of this invention is to combine with a whip socket, for carriages, a lock with a springing hasp, similar to padlocks, in such a way that the hasp may be locked around the whip above the buttons, or enlargements at the ends, when not using it, to prevent it from being wrongfully taken away, and so that when driving and requiring it for use, the hasp being unlocked may be opened for readily inserting the whip in the socket or removing it. The invention also comprises an arrangement of leather, or other flexible substance, with the hasp and the lock to prevent chafing the whip.

HEATER.—Edmund Schwiecker, Hoboken, N. J.—The object of this invention is to construct a heating apparatus, in which the smoke will be to a very large degree consumed, so that with a comparatively small quantity of fuel a greater degree of heat can be obtained.

MULTIPLE EMBROIDERING MACHINE.—Hermann Berger, Marten, Switzerland.—The object of this invention is to construct an embroidering machine, which can be used on gauze, or other fabric, in such manner that one or more pairs of curtains, or other articles, can at once be embroidered thereon with the design in reverse. Thereby a very large amount of labor is saved, as in the machinery heretofore in use but one single piece could be treated, and as for the reverse position required on every pair of curtains new designs had to be gotten up.

CLOTH AND HAT BRUSH.—Joseph Marshall, New York City.—This invention relates to a new brush, which, when used on broadcloth, silk, felt, and other fabrics, will very thoroughly free the same of all dust and other impurities, and impart a polish to the surface to which it is applied. The invention consists in arranging a velvet, plush, or other cushion within the bristles, which form the outer part of the brush. This cushion will aid in removing impurities, and will, at the same time, polish and lay the fibers on the brushed surface.

CANE STUBBLE SHAWER.—P. G. Kleinpeter, Plaquemine, Iberville Parish, La.—This invention consists in the use of a horizontal knife, which is attached to the landside of an ordinary plow to cut the stubbles while the plow is forced through the ground. The invention also consists in attaching a rake to the outer end of the knife for raking the cut stubble into the furrow.

MOISTENING AND DUMPING MACHINE FOR MINES.—Geo. Martz, Pottsville, Pa.—This invention relates to hoisting water and coal from mines, and dumping the same into chutes.

TIRE BENDER.—Wm. Willhite, Fetterman, West Va.—The object of this invention is to provide a simple, convenient, and effective apparatus for the purpose of bending tires and other metallic bars.

GRAIN SWEATER, DRYER, AND CLEANER.—Wm. Hull and C. W. Hammond, Baltimore, Md.—This invention relates to that class of machines for cleaning grain, etc., in which a hollow rotating cylinder is employed, provided with oblique or "worm" flanges, partitions, or reflections for moving the grain longitudinally with the cylinder as the latter rotates.

LOW-WATER DETECTOR.—G. B. Massey, New York city.—This invention relates to a new safety attachment to steam boilers whereby an alarm will be instantly given as soon as the water sinks below a certain desired level, and it has for its object to construct an apparatus which will operate with certainty at low as well as high pressure.

RAILROAD-CAR JOURNAL BOX.—J. B. Collin, Altoona, Pa.—This invention relates to a new journal box for railroad cars, which is so arranged that it can be conveniently opened or closed, but not spontaneously drop open during the motion of the car, and so that the oil, flowing over at the back of the box, cannot reach the wheel, and so that the packing within the box cannot be thrown forward against the lid to force the same open.

COTTON AND HAY PRESS.—Joseph K. Davis, Monticello, S. C.—This invention relates to that class of cotton and hay presses in which the bale is formed at the top of the press, the platen being worked upward by means of two vertical screw rods. Such presses must of necessity have doors through which to get into the upper end of the press box, as well as a cover which can be removed when occasion requires.

WAGON BRAKE.—Milton Satterlee, Foreston, Ill.—This invention relates to that class of wagon brakes in which a lever is employed to throw a shoe or drag under one or both of the hind wheels, or remove it therefrom; and this improvement consists in a peculiar construction of such shoe, whereby it not only better adapts itself to the inequalities of the ground, but, also, prevents the sliding or sluing of the wagon on ice, or other smooth surface.

ICE MACHINE.—D. L. Holden, New Orleans, La.—This invention relates to that class of ice machines in which chime gasolene, rigoline, and other kindred substances are sprayed into a freezing chamber, or into freezing pipes, and consists in a new and improved construction of the spraying apparatus, whereby the cleaning and repairing are greatly facilitated, together with a new apparatus for purifying the gasolene, and during the process, and a new and improved arrangement and combination of all the parts, whereby the whole is greatly simplified, and its cost and expense of running reduced, while its effectiveness is increased.

CONSTRUCTION OF VESSELS.—W. A. Farley, St. Andrew's Bay, Fla.—This invention consists in producing patterns of two different curves taken from two radii; the one obtained by taking two thirds the measurement of the beam of the required vessel, and the other from a radius of one half the said measurement. Also, in the use of the said pattern, in a manner to obtain the required curves for any part of the sides and bottom of the vessel, by one pattern.

HAT POUNCING MACHINE.—John Rosencranz, Boston, Mass.—This invention consists of one or more pairs of conical rollers, and a vibrating brushing or rubbing device, arranged and adapted for imparting a rotary motion to the hat, by passing the brim through the rollers, which press it and move it against the brushing apparatus for brushing and finishing the brim.

TRACK SIGHTER.—Geo. W. Plumb, Milford, Conn.—The object of this invention is to provide a simple and efficient instrument whereby the rails of railroads may be sighted for adjusting and truing without the labor and delay of placing the head down upon the rail, which is not only tedious but injurious to the physical condition of the sighter, when the rails are hot in warm weather.

PUMP.—Chalkley Griscom, Lewis Griscom, and J. P. Griscom, Mahanoy Plain, Pa.—This invention relates to a new pump, to be used for mining and other purposes, and its object is to throw a continuous stream and to keep the water at an uninterrupted flow, so that when the column of water is once started, it will continue to move as long as the pump is in motion.

FEED ATTACHMENT TO CARDING MACHINES.—James Lawton, Glenham, N. Y.—This invention relates to a new attachment to carding machines, which is to be a substitute for the ordinary strap heretofore in use.

HOD ELEVATOR.—Thomas M. Pelham, New York city.—This invention relates to improvements in hod-elevating platforms, such as are used by builders for elevating and returning the hods containing bricks, mortar, and other substances, and has for its object to provide an arrangement whereby the persons who take the hods from the platform after being elevated may do so without requiring to step on the platform in shouldering the hods, as they must now do, as the elevators are at present constructed, by which serious accidents occur by the falling of the platforms owing to the slipping of the hoisting gear, breaking of the ropes, and other causes. The invention also has for its object to provide an arrangement whereby a greater number of hods may be carried up in the same space or on platforms of equal size to others now in use.

WATER DOORS FOR FURNACES.—Joseph Phillips and Davis Keeley, Phoenixville, Pa.—This invention relates to a new and useful improvement in doors for puddling, blast, and other furnaces, and consists in producing a circulation of water in a serpentine channel through the door by means of partitions.

MITER VISE.—Charles W. Wilson, Norfolk, Va.—This invention relates to an improvement in means for fastening miter joints, more especially designed for use in making picture frames, but applicable to other purposes.

MACHINE FOR CUTTING SHEET METAL.—John A. Wells, Holly Springs, Miss.—This invention relates to a new and improved machine for cutting circles from tin and other sheet metal.

HYDRAULIC DREDGING MACHINE.—R. S. Elliott, St. Louis, Mo.—This invention relates to improvements in machinery for dredging river bottoms and the bottoms of other water ways used for navigation, and is intended for removing bars of sand and other similar matter from navigable channels.

BURIAL CASE.—J. A. Danbridge, Buffalo, N. Y.—In carrying out this invention the cases are constructed preferably of wood, and are covered with a metallic covering, formed by electro-plating upon wax or any other substance that can be easily molded into ornamental designs of raised figures, and to connect the said ornamental covering the back is filled with a cement impervious to wet, which will adhere to both wood and metal, and when so filled apply them to the exterior, thus uniting them together and protecting the cases from penetration by moisture, or the same may be applied to metallic cases as commonly constructed by the ordinary process of electro-plating or to cases of other substances capable of electro-plating.

MACHINE FOR FASTENING THE BOTTOMS TO POLYGONAL SHEET-METAL CANS.—Reuben Brady, New York city.—This invention relates to a new machine for crimping the turned-up edges of sheet-metal plates to the sides of polygonal sheet-metal vessels so as to thereby securely fasten such plates or bottoms to the vessels.

STEERING APPARATUS.—Henry Edward Skinner, London, England.—This invention relates to a new steering apparatus, which, while it is of very simple construction, will develop much power, and give full control of the rudder. The invention consists in the application of two screws working one within the other.

HIGH AND LOW-WATER INDICATOR.—G. B. Massey, New York city.—This invention relates to a new alarm attachment to steam boilers, which will be operated when the water is a certain distance above as well as when it is below the proper height, and which will also, when it is operated, indicate whether it is put in action by high or low water.

Official List of Patents.

Issued by the United States Patent Office.

FOR THE WEEK ENDING SEPT. 28, 1869.

Reported Officially for the Scientific American

SCHEDULE OF PATENT OFFICE FEES:

Table with 2 columns: Fee description and Amount. Includes items like 'On each caveat', 'On filing each application for a Patent', 'On appeal to Commissioner of Patents', etc.

For copy of Claim of any Patent issued within 30 years... \$1. Sketch from the model or drawing, relating to such portion of a machine as the Claim covers, from... \$1.

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Full information, as to price of drawings, in each case, may be had by address in MUNN & CO., Patent Solicitors, No. 37 Park Row, New York.

- 95,179.—PRESERVING FISH.—Reuben A. Adams, Cambridge, Mass.
95,180.—SASH BALANCE.—Orson Armstrong, Oshkosh, Wis.
95,181.—PERMUTATION LOCK.—Theophilus A. Auberlin, Detroit, Mich.
95,182.—BASE-BURNING STOVE.—Roman Backus, Albany, N. Y.
95,183.—BABY JUMPER AND ROCKER.—Burroughs Beach (assignor to J. R. Pease), Meriden, Conn.
95,184.—MINERS' SAFETY LANTERNS.—N. L. Beaufrils and Jacques (extroth), Paris, France.
95,185.—BASKET.—L. W. Beecher, Westville, Conn.
95,186.—EMBROIDERING MACHINE.—Hermann Berger, Marthalen, Switzerland.
95,187.—HARVESTER GUARDS.—James Birch, Corry, Pa.
95,188.—HARVESTER.—Olpha Bonney, Jr., San Francisco, Cal.
95,189.—LIQUID METER.—J. A. Bradshaw and W. H. Brown (assignors to themselves and Darius Whitehead), Lowell, Mass.
95,190.—MACHINE FOR FASTENING BOTTOMS TO CANS.—Reuben Brady, New York city.
95,191.—HARVESTER RAKE.—Thomas S. Brown, Poughkeepsie, N. Y.
95,192.—BED BOTTOM.—D. M. Bye (assignor to himself and H. Bash), Roanoke, Va.
95,193.—MACHINE FOR MITERING PRINTERS' RULES.—W. E. Cameron and A. A. Dettlaf, Green Island, N. Y.; said Cameron assignor to said Dettlaf.
95,194.—PLOW WHEEL.—E. A. Chubb, Ionia, Mich.
95,195.—VISE.—C. A. Cole, St. Louis, Mich., assignor to himself and J. L. Evans.
95,196.—RAILWAY-CAR JOURNAL BOX.—J. B. Collin, Altoona, Pa.
95,197.—LET-OFF MECHANISM FOR LOOMS.—D. M. Collins, Lowell, Mass.
95,198.—LOOM HARNESS.—A. B. Corey, Providence, R. I.
95,199.—METHOD OF CONSTRUCTING PILES FOR RAILROAD RAILS.—W. E. C. Cox, Reading, Pa.
95,200.—YARN-TENSION DEVICE FOR KNITTING MACHINES.—John Cranell, Chicopee Falls, Mass.
95,201.—MANUFACTURE OF WHITE LEAD.—Jas. Cuddy, Pittsburgh, Pa.
95,202.—BURIAL CASE.—J. A. Danbridge, Buffalo, N. Y.
95,203.—HOOP-SKIRT FASTENING.—F. E. Day, New York city, assignor to himself and L. H. Day, same place, assignors to J. B. Loomis for one half their right.
95,204.—SEAL LOCK FOR BAGS.—John Dewe, Toronto, Canada.
95,205.—CAN OPENER.—E. F. Dewey, San Francisco, Cal.
95,206.—COAL STOVE.—R. S. Dillon, Detroit, Mich.
95,207.—LATH MACHINE.—Jacob Dobbins, Litchfield, Mich.
95,208.—FEEDING MECHANISM FOR CARDING ENGINES.—A. A. Dow, Glenham, N. Y.
95,209.—MEDICAL EXTRACT.—H. S. Draper, Rochester, N. Y. Antedated Sept. 13, 1868.
95,210.—BOOT AND SHOE.—Charles S. Dunbrack, Swampscott, Mass.
95,211.—MANUFACTURE OF SHOES.—C. S. Dunbrack, Swampscott, Mass.
95,212.—CHURN.—R. Elarton and W. J. Elarton, Hillsborough, Iowa. Antedated Sept. 16, 1868.
95,213.—HYDRAULIC DREDGING MACHINE.—R. S. Elliott, St. Louis, Mo.
95,214.—CORN HARVESTER.—E. I. Eno, Springfield, Ill.
95,215.—CONSTRUCTION OF VESSELS.—Wm. A. Farley, St. Andrew's Bay, Fla.
95,216.—RAT TRAP.—J. W. Fifield, Franklin, N. H.
95,217.—STUMP EXTRACTOR.—Ira Flanders, Paw Paw, Mich.
95,218.—CURTAIN FIXTURE.—G. P. Fuller, Philadelphia, Pa.
95,219.—MODE OF HANGING WINDOW SHADES.—G. P. Fuller, Philadelphia, Pa.
95,220.—AUGER HANDLE.—D. W. George, Minnesota City, town of Rollington, Minn. Antedated Sept. 18, 1868.
95,221.—HARNESS MECHANISM FOR LOOMS.—A. F. Gibboney, Bellville, Pa.
95,222.—PUMP.—Chalkley Griscom, Lewis Griscom, and J. P. Griscom, Mahanoy Plane, Pa.
95,223.—BEDSTEAD.—Jones Harding, Detroit, Mich.
95,224.—HEADBLOCK FOR SAW MILLS.—J. F. Hartmann, Richmond, Ind., assignor to himself, Heinrich W. Morningstar and Eugene Lovel.
95,225.—DIRECT-ACTING STEAM ENGINE.—W. B. Hayden, Columbus, Ohio.
95,226.—COMPOUND FOR BUILDING PURPOSES.—Geo. Heim, Naperville, Ill.
95,227.—RAILWAY-RAIL CHAIR.—G. A. H. Hertzler, Waterford, Mich.
95,228.—WHIP SOCKET.—W. S. Hill, Manchester, N. H.
95,229.—GANG PLOW.—H. R. Huie, Hayward, assignor to L. L. Treadwell and G. R. Carter, San Francisco, Cal.
95,230.—Suspended.
95,231.—DOOR FASTENER.—Henry M. Jones, West Meriden, Conn.
95,232.—SPRING CURTAIN ROLLER.—E. M. Judd, Wolcottville, Conn. Antedated Sept. 11, 1868.
95,233.—RUFFLE.—Austin Kelley, Brooklyn, N. Y. Antedated Sept. 16, 1868.
95,234.—HAY TEDDER.—J. B. Kelley, Brandon, Vt.
95,235.—SHOULDER BRACE.—J. E. Kent (assignor to W. J. Everett), Philadelphia, Pa.
95,236.—PEDDLERS' WAGON.—S. T. Lamb and G. A. Rankin, New Albany, Ind.
95,237.—FEEDING ATTACHMENT FOR CARDING ENGINE.—James Lawton, Glenham, N. Y.
95,238.—MACHINE FOR DRESSING STONE.—T. H. Leavitt, Boston, Mass.
95,239.—WASHING MACHINE.—G. A. Leigh, Springfield, assignor to himself and S. E. Leigh, Bloomington, Ill.
95,240.—MUFF.—Bernard Levy (assignor to himself and W. H. Slocum), Boston, Mass.
95,241.—SEED PLANTER.—J. S. Lewis, Elkader, Iowa.
95,242.—POTATO DIGGER.—Daniel Locke, Geneva, Wis.

- 95,243.—SAIL LATCHET.—John Muir (assignor to himself and H. W. Cranmer), Philadelphia, Pa.
95,244.—CLOTH AND HAT BRUSH.—Joseph Marshall, New York city.
95,245.—LOW-WATER DETECTOR FOR BOILERS.—G. B. Massey, New York city.
95,246.—HIGH AND LOW-WATER INDICATOR.—G. B. Massey, New York city.
95,247.—WASHING MACHINE.—G. J. Matson (assignor to himself and S. F. Judd), Alma, Mich.
95,248.—HEAD LIGHT.—H. S. Maxim and James Radley, New York city.
95,249.—PRESS.—W. J. McDermott, Covington, Tenn.
95,250.—GRATE FOR STOVES AND FURNACES.—J. B. McIntosh, Erie, Pa.
95,251.—PLOW.—J. C. McVutt and A. E. Furman, Strattonville, Pa.
95,252.—MILL PICK.—Chas. Metzger and G. R. Roraback, De Sota, Mo. Antedated Sept. 17, 1868.
95,253.—MODE OF FASTENING BUTTONS ON SHOES, ETC.—C. C. Morgan, New York city.
95,254.—HORSESHOE-NAIL CLINCHER.—A. Morley, Addison, Mich.
95,255.—FERNERY.—C. L. Osborn, New York city.
95,256.—HOT-AIR FURNACE.—A. L. Otis, Normal, Ill.
95,257.—INSTRUMENT FOR SETTING BUTTON HOOKS.—J. S. Palmer, Providence, R. I.
95,258.—VISE.—Charles Parker, Meriden, Conn.
95,259.—MOP HEAD.—H. C. Parsons, Dexter, Me.
95,260.—STOP VALVE.—John Paterson, Troy, N. Y.
95,261.—TRAVELER FOR SPINNING RING.—H. L. Peirce, Taunton, Mass.
95,262.—HOD ELEVATOR.—T. M. Pelham, New York city.
95,263.—FURNACE DOOR.—Joseph Phillips and Davis Keeley, Phoenixville, Pa.
95,264.—IMPLEMENT FOR SIGHTING RAILROAD TRACKS.—G. W. Plumb, Milford, Conn.
95,265.—POLISHING MACHINE.—P. F. Randolph, Jerseyville, Ill.
95,266.—WASH-BOILER TUBE.—T. W. R. Rayner, New York city.
95,267.—WINDOW.—Henry Redlich, Chicago, Ill. Antedated September 23, 1869.
95,268.—HORSE HAY RAKE.—M. C. Remington, Weedsport, N. Y.
95,269.—GRAIN-CLEANING MACHINE.—James Rood, Beaver Dam, Wis.
95,270.—HAT-POUNCING MACHINE.—J. Rosencranz, Boston, Mass.
95,271.—THREAD GUIDE FOR SPOOLS.—T. O. L. Schrader, New York city. Antedated Sept. 15, 1868.
95,272.—"PLUG TOBACCO" CUTTER.—Albert Schuneman and Theodore Schuneman, Detroit, Mich.
95,273.—COAL STOVE.—Edward Schwietter, Hoboken, N. J.
95,274.—BASE-BURNING FIREPLACE STOVE.—S. B. Sexton, Baltimore, Md.
95,275.—CONDENSER.—Thomas Shaw, Philadelphia, Pa.
95,276.—LAUNDRY STOVE AND HEATING FURNACE.—C. J. Shepard, Brooklyn, N. Y.
95,277.—SHAFT COUPLING.—E. G. Shortt, Carthage, N. Y.
95,278.—STEERING APPARATUS.—H. E. Skinner (assignor to Wm. Hopcraft), London, England.
95,279.—AXLE SKEIN.—T. S. Sleeper, Binghamton, N. Y.
95,280.—FEED MEASURE FOR STOCK.—Charles E. Spaulding, Theresa, N. Y.
95,281.—HOT-AIR FURNACE.—B. F. Sturtevant, Jamaica Plains, Mass.
95,282.—NUMBERING MACHINE.—H. Sutcliffe, Brooklyn, N. Y. Antedated Sept. 16, 1868.
95,283.—RAILWAY CAR SEAT.—John B. Sutherland, Detroit, Mich.
95,284.—ROLL FOR SPLITTING RAILROAD RAILS.—Wm. A. Sweet, Syracuse, N. Y.
95,285.—STEAM VALVE.—W. A. Sweet, Syracuse, N. Y.
95,286.—APPLE CORER.—G. L. Swett and B. F. Drake, Leominster, Mass.
95,287.—CORN-PLOW FENDER.—Alex. B. Thornton, Berlin, Ill.
95,288.—WHEELBARROW.—B. W. Tuthill, Oregon City, Oregon.
95,289.—BOLT FEEDER.—Oscar Van Tassel, Naperville, Ill.
95,290.—HINGE.—Adolph Velguth, Milwaukee, Wis.
95,291.—BRAZIER.—R. B. Wakefield (assignor to himself and J. F. Chamberlain, and E. B. Haskell), Springfield, Mass.
95,292.—TURBINE WATER WHEEL.—C. B. Walsh, Wau-paca, Wis.
95,293.—BRAN DUSTER FOR FLOUR MILLS.—J. E. Weaver, Nether Providence township, Pa.
95,294.—MACHINE FOR CUTTING SHEET METAL.—John A. Wells, Holly Springs, Miss.
95,295.—PROCESS OF OBTAINING WROUGHT IRON DIRECTLY FROM THE ORE.—J. D. Whelpley and J. J. Storer, Boston, Mass. Antedated Sept. 16, 1868.
95,296.—MACHINE FOR MAKING SHINGLE BOLTS.—Daniel H. Whitney, Black Rock, N. Y., assignor to I. P. Hathaway, A. F. Bartlett, and George Morris, East Sagraw, Mich.
95,297.—CHUCK.—E. S. Williams, Cambridge, Mass.
95,298.—MEDICAL COMPOUND.—Eli Willis (assignor to himself and C. P. Wescott), Winslow, N. J. Antedated Sept. 13, 1868.
95,299.—MITER VISE.—C. W. Wilson, Norfolk, Va.
95,300.—MODE OF PROTECTING PLASTERED WALLS AGAINST DAMPNESS.—Wm. E. Worthen, New York, and Tobias New, Brooklyn, N. Y.
95,301.—HARVESTER.—Nicholas Allstatter, Hamilton, Ohio.
95,302.—SAWING MACHINE.—Casimir Amsler, St. Louis, Mo.
95,303.—GRAIN SCREEN.—J. E. Anderson, Boiling Springs, Pa.
95,304.—HARVESTER.—John Barnes, Rockford, Ill.
95,305.—OX-YOKE BOW.—W. G. Beckwith, Lowndesborough, Ala.
95,306.—HOE.—W. G. Beckwith, Lowndesborough, Ala.
95,307.—PROCESS FOR UTILIZING THE SULPHUR FUMES FROM COPPER ORES.—Artemas Bigelow, Newark, N. J., assignor to H. Martin, Baltimore, Md.
95,308.—MEASURING FAUCET.—T. Brigham Bishop, New York city.
95,309.—MEAT CHOPPER.—J. H. Blake, Westbrook, assignor to himself and J. M. Todd, Portland, Me.
95,310.—ELECTRIC CLOCK.—Leverett Bradley, Jersey City, N. J.
95,311.—THRILL-COUPLING.—W. M. Brayton, assignor to himself, W. S. Thompson, and H. S. Mackie, Rochester, N. Y. Antedated Sept. 17, 1868.
95,312.—SOAP OR DETERGENT COMPOUND.—E. R. Breed, Farmington, Ill.
95,313.—LUBRICATOR FOR JOURNAL BOXES.—Adolphus Brown and Felix Brown, New York city.
95,314.—ROLLER JAW-TEMPLE FOR LOOMS.—W. H. Burns, Grafton (assignor to Jonathan Luther), Worcester, Mass.
95,315.—HORSE RAKE.—F. M. Buckmaster, Galesburg, Ill.
95,316.—CLOTHES-LINE HOLDER.—Daniel Bull, Amboy, Ill.
95,317.—EXTRACT OF HOPS.—Hugh Burgess, Royer's Ford, Pa.
95,318.—EXTENSION CRIB.—S. S. Burr, Dedham, Mass.
95,319.—DEVICE FOR FITTING AXLE-SPINDLES TO SKEINS.—C. L. Campbell, assignor to W. W. Wheaton, Binghamton, N. Y.
95,320.—BUTTON-HOLING ATTACHMENT FOR SEWING MACHINES.—William Carpenter, Fairbury, Ill.
95,321.—PORTABLE FIRE ESCAPE.—H. C. Carrigan, New York city.
95,322.—FASTENING FOR ATTACHING THE ENDS OF BANDS, CLAMPS, ETC.—Edwin Carter, Norwalk, Conn.
95,323.—STEAM GAGE.—William Chesley, Cincinnati, Ohio.
95,324.—MILK CAN.—John Cochran, Purdy's Station, N. Y.
95,325.—VELOCIPEDE.—W. H. Coleman, New Orleans, La.
95,326.—ICE-BREAKING BOAT.—Daniel Compton, Newport, N. J.
95,327.—SLED BRAKE.—S. A. Cummins and A. J. Cummins, Vienna, N. J. Antedated Sept. 18, 1868.
95,328.—COTTON AND HAY PRESS.—J. K. Davis, Monticello, S. C.