

American Progress in Stock Breeding.

In nearly all matters relating to industrial and material progress, the United States are making unquestionable advance, the basis of which is individual effort. Here every man aspires to better his condition, and tries to attain improvement in whatever his hand may find to do. If a mechanic, he is not satisfied until his devices are made superior to the old fashioned styles. If a horse breeder, his mind is given to the raising of a stock that shall beat the world. This pervading spirit of enterprise, this constant study for improvement, ramifies into almost every pursuit, and the general result is an elevation of the quality of American productions which makes them specially sought for in foreign lands.

An exemplification of this is seen in the circumstances connected with a recent cattle sale at New York Mills, N. Y., near Utica, at the farm of Mr. Samuel Campbell. The animals sold were chiefly of the short horn variety, imported twenty years ago from England, and since that time subjected constantly to American study and improvement. The result is now seen in the production of cattle of such great superiority that bidders for them have come from distant lands to pay down probably the highest prices ever before given for animals of this variety.

The New York Tribune says that about 500 people were in attendance at the sale, among whom were: the Right Hon. Lord Skelmersdale, whose seat is near Liverpool; Mr. Halford, of Papillon, Market Harborough; Mr. Calthorpe; Mr. Richardson, who represents Sir Curtis Lamson, of Sussex; Mr. Berwick, agent for Lord Dunmore, but who buys for Earl Bective, recently Lord Kenlis, of Underley Hall, Lancashire, and Mr. Kello, agent for Mr. R. Pavin Davis, of Horton, Gloucestershire.

A three year old bull brought \$12,000. A cow, \$30,600. A yearling heifer, \$19,000. Another cow, \$35,000, bought by Lord Bective. The culmination of the intense interest, however, was reached in the bidding for the Eighth Duchess of Geneva, which was sold to Mr. R. Pavin Davis, of Gloucestershire, Eng., for the unprecedented sum of \$40,600. After this 11 cows of the Duchess family sold for \$238,800, an average of over \$21,700. Of these six went to England at a cost of \$147,100, and five remain here at a cost of \$91,700.

After the Duchess family came the Oxfords, then the other families, the bulls being brought in after all the cows were sold. There were in all 111 animals presented. The sum realized was \$380,890.

Poisonous Undershirts.

Well authenticated instances of poisoning, resulting from wearing fabrics colored by some of the dyes in common use are by no means unusual. A highly intelligent gentleman, B.P., Esq., of Byfield, Mass., called a few weeks ago to consult us regarding his own case, which was of so serious a nature as to cause much alarm, not only to himself but to his family.

He had a few days previous purchased some new undershirts of cotton, colored with various tints, among which aniline red predominated. In a short time after putting on the garment, a peculiar eruption of an irritating nature appeared on the portion of the body covered by the cloth. The effects were not merely local, but to a considerable extent constitutional, pain and uneasiness being experienced in the back and lower extremities. In proof that the eruption was caused by the dye colors, it may be stated that a portion of the garment about the upper part of the chest was lined with linen on the under side; and wherever this came in contact with the skin, no eruption or redness appeared. The gentleman had worn cotton stockings, upon the upper portion of which there was woven in the fabric a narrow line of red. Beneath this band of red, around the leg, appeared a corresponding band of irritated skin after wearing the hose one day. The poisonous influence of the dye colors in this case cannot be disputed. It is not probable that the number of persons is large who possess such idiosyncrasies of constitution as to be easily poisoned by dye colors, but that three are some does not admit of a doubt.—*Boston Journal of Chemistry.*

Prizes for Electrical Inventions.

Among the general subjects for which prizes of gold and silver medals are offered by the Society of Arts, London, are the following:

A galvanic element which shall combine the constancy to the Daniell's cell with the low resistance and high electro-motive force of a Grove's cell.

An electric condenser which shall combine high capacity with small bulk and small residual charge.

A sensitive pocket galvanometer. The size should not exceed that of a watch.

To which may be added, as of use in telegraphy:

A varnish or coating which can be applied to iron wires so as to protect them against rust, and which shall not be liable to chip off when the wire is bent or rubbed.

Electric weaving. To the manufacturer who first practically applies electricity to the production commercially of figured fabrics in the loom.

Telegraphs. For an economic and permanent means of telegraphing through uninsulated wires, between places not less than 1,000 miles apart.

All communications and articles intended for competition must be delivered addressed to the Secretary, at the Society's House, free of expense, either on or before the 31st December, 1873 or 1874, except where otherwise stated. In the first case they will be considered during the session 1873-74; in the second case during the session 1874-75. Any communication rewarded by the Society, or any paper read at an ordinary meeting, will be considered as the property of the Society.

VIENNA PREMIUMS AGAIN AND THE AMERICAN SEWING MACHINES.

By reference to the "General Regulations of the Vienna Universal Exhibition," published by Archduke Regnier, President of the Imperial Commission, we find medals were to be awarded, in the mechanical department, in two classes—one for merit, and one for progress. The medal for merit was for the article possessing the greatest merit of its kind and class; and the medal for progress, for the article or thing which had made the greatest progression toward perfection. (In this country, the award of progress would be called a second premium.) Hence we conclude that, as the Wilson Sewing Machine was the only sewing machine that received the Grand Medal of Merit, when the awards were made at the Vienna Exposition, it must have been the best sewing machine on exhibition; although other sewing machines that received medals for progress should not be considered very inferior machines. At the great American Centennial Exposition of 1876, they may have so improved as to equal the world renowned Wilson Shuttle Sewing Machine.—*New York Tribune*, Sept. 8, 1873.

The number of complete patents granted in England, in 1872, was 2,734.

NEW BOOKS AND PUBLICATIONS.

A TREATISE ON CIVIL ENGINEERING. By the late D. H. Mahan, LL.D., Professor of Civil Engineering at West Point, N. Y. Revised and Edited by De Volson Wood, Professor of Mathematics and Mechanics in the Stevens Institute of Technology. New York: John Wiley & Son, 15 Astor Place.

Dr. Mahan's "Civil Engineering" is one of the standard American text books; and we have here a new edition, containing the methods and formulae of the present day. The work is too well known to need commendation in this place; but we are happy to give unqualified praise to the manner in which this new issue has been improved and edited.

SOUND AND MUSIC: A Non-Mathematical Treatise on the Physical Constitution of Musical Sounds and Harmony, including the chief Acoustical Discoveries of Professor Helmholtz. By Sedley Taylor, M.A., Fellow of Trinity College, Cambridge, England. Price \$3. New York and London: Macmillan & Co.

This book is an acceptable supplement to Dr. Tyndall's "Lectures on Sound," and applies the masterly reasoning of that work to the explanation of the theory of musical intervals and harmonics. We cordially commend it to students of acoustics, and to musicians desirous of investigating the science of their art.

PROGRESSION: Devoted to the Railroad Interests of the West and South. Volume I, No. 1. Subscription, \$2 a year. St. Louis, Mo.: Lee and Josselyn.

This is an excellent specimen of contemporary journalism; and the field it proposes to occupy is large enough even for Western energy and pluck.

THE PRACTICAL MAGAZINE: a Monthly Illustrated Cyclopaedia of Industrial News, Inventions, and Improvements. Price \$1. London, England; and J. R. Osgood & Co., Boston, Mass.

The eighth issue of this very handsome publication has just come to hand from the well known publishing house of J. R. Osgood & Co. There is no falling off either in the literature or illustrations of this first class magazine, which includes in its present issue, among other engravings, an admirably life-like portrait of Robert Crawshaw, of Merthyr Tydvil, one of the iron kings of South Wales.

THE AMERICAN TEXTILE MANUFACTURER: a Journal devoted to Textile Manufactures, Market Reports, Practical Information and Scientific Subjects.

This neatly printed sheet is issued by the Textile Publishing Company, 234 and 235 Broadway, New York. It contains a considerable amount of trade information, and some articles, original and selected, relating to the industries on which it relies for support. We are glad to see that our efforts in the cause of industrial progress are appreciated by the editors of this new publication.

Inventions Patented in England by Americans.

[Compiled from the Commissioners of Patents' Journal.]

From August 25 to August 28, 1873, inclusive.

- BATTERY GUN.—J. P. Taylor, Elizabethton, Tenn.
- BRUSH MAKING.—Florence Manufacturing Company, Mass.
- BUFFER AND COUPLING.—W. H. Skidmore, Philadelphia, Pa.
- COMPOUND FAUCET.—W. S. Bate, Philadelphia, Pa.
- GAS MAKING.—H. H. Walwright, Philadelphia, Pa., et al.
- GAS MAKING.—O. C. Hoffman, New York city.
- HACKLING MACHINE.—J. C. Todd, New York city.
- INTERNAL SCREWING.—J. L. Pope, Cleveland, Ohio.
- LOCK AND KEY.—D. K. Millor et al., Philadelphia, Pa.
- LOOM HARNESS.—F. Condit, Providence, R. I.
- SHAFT COUPLING, ETC.—J. Charlton, Philadelphia, Pa.
- SHUTTLE GUARD.—E. M. Stevens et al., Boston, Mass.
- TRIMMING PAPER, ETC.—M. H. Semple, Lowell, Mass.
- WATCH REGULATOR.—C. Teske, Saratoga Springs, N. Y.

Recent American and Foreign Patents.

Improved Sawing Machine.

Allen Xander, Slatington, Pa.—This invention consists in the improvement of sawing machines. The table is provided with one or more boards arranged to slide in and out of supports in the under side of it, to hold the work directly in front of the saw when it may be required to do so for cutting slots or notches in the end of the work. This tool may also be used for making long grooves in the work by running it over the cutter on the table.

Improved Hoisting Jack.

John Churchill, Cross River, N. Y.—The object of this invention is to construct a hoisting jack which is easily operated, effective in action, and readily adjusted to different heights. The invention consists of a bell crank lever with treadle, which acts by means of an intermediate connecting rod and weighted link on a sliding rack, guided between a strong frame.

Improved Automatic Gate.

John S. Folt, Kenton, O.—This invention has for its object to furnish an improved gate, which shall be so constructed that it may be readily opened and closed by simply moving the end of the lever in one and another direction. The invention is an improvement in the class of gates having appliances for swinging them at a distance; and consists in the arrangement of a set of parallel levers and their connecting rods with a pivoted plate, upon which the gate itself is pivoted and partly supported. By this arrangement, by operating either of the levers, the gate is swung open and latches upon the post, and by moving either lever in the opposite direction the gate will be swung shut.

Improved Land Marker.

George W. Betts, Shadenville, O.—This invention relates to an arrangement of a sliding bar and pivoted lever with the pivoted frame to which the markers are connected. The plows or markers have a free vertical, but no lateral movement. The rear ends of levers pass through keepers attached to a bar, so that the plows or markers may all be raised and lowered at the same time, by raising and lowering the said bar. The bar is attached to

the rear ends of two levers which are pivoted to short studs, attached to the rear bar of the frame. The forward ends of the levers are connected by a board for the driver to rest his feet upon, so that he can, with his feet, raise the plows from the ground, to pass an obstruction or for convenience in turning around. To a hand lever is pivoted the forward end of a bar which slides in the slot of an upright, attached to the rear bar of the frame. The bar projects rearwardly, so that, by adjusting it by means of the lever, it can be made to support the plows when raised from the ground; or it can be adjusted to act as a lever for forcing the plows farther into the ground. The slotted upright has several holes formed through it to receive pins, between which the bar slides, so that by adjusting the said pins the bar may be adjusted to support the plows at any desired distance from the ground.

Improved Machine for Making Taper Tubes.

Thomas J. Jones and John T. Jones, Sharon, Pa.—This invention consists of a taper mandrel, with a clamp for holding the plate of which the tube is to be formed at one edge, and a lever and bending plate, so contrived that the tapered plate is bent to the form of the mandrel by pressing said bending plate upon it by the lever, the mandrel being shifted around from time to time, and held stationary while the pressing is performed. The invention also consists of a mandrel and holding clamp, a welding roller, and a carriage, so combined and arranged that the bent plate, being reheated and arranged on the mandrel with the edges lapped and adjusted in the carriage, is quickly and thoroughly welded by the pressure of the welding roller, under which the lapped edges are caused to pass forward and backward until the joint is completed.

Improved Knob Latch.

August Heyse, Terre Haute, Ind.—The object of this invention is to furnish an improvement in the class of door locks having a sliding spindle with wedge-shaped pieces attached to it. The invention consists in the arrangement of guide pieces in connection with the bolt spindle. The latch bolt consists of three parts: Head, shank, and wedge extension. The head is considerably larger than the shank part, and is acted upon at its rear side by the end of a band spring. The wedge part extends sidewise in a right angle from shank, forming, with guide piece, a square aperture for the knob spindle. Two wedge projections are placed centrally, but in opposite directions, on spindle, and act from both sides on wedge extension. The latter is, therefore, pressed back whether the knob is pressed or pulled, opening thereby the door. A spring presses the bolt forward again as soon as the knob is released. The whole locks let into the door, which is, as well as the side face plate, provided with slotted perforations.

Improved Circular Saw Guards.

Oscar A. Dean, Bethel, Vt.—The object of this invention is to provide means for protecting the operator in using circular saws; and consists in a guard consisting of two or more pieces. By raising and lowering the guard bar the two guards may be kept nearly in contact with the piece of lumber which is being sawn, and all danger from pieces, splinters, or loose knots being thrown toward the operator is prevented.

Improved Reversible Rotary Steam Engine.

Orwin Adams, Black Hawk, Col. Ter.—This invention has for its object to furnish an improved rotary steam engine. To the main shaft is keyed the drum, through slots in the face of which the pistons move in and out. The shaft works in cast steel bearings made adjustable. The pistons are bolted to yokes, which work upon the shaft. To the pistons and yokes, at or near their point of intersection, are secured slides, which move along the outer surface of a circular guide to force and hold the pistons out, and along the inner or concave surface of an elliptical guide to force and hold the pistons in. Steel circular rings, working against the metallic packing in edge of the drum, are let into the heads of the cylinder, and are adjusted by set screws. The part of the cylinder above the points of intersection of the guides is recessed to allow the exhaust steam to escape freely around the edge of the pistons, as soon as they have completed their stroke. The steam is prevented from passing directly from one port to the other by a packing held against the drum by springs. To the shaft, at one end of the cylinder, is secured a cam which moves a bar downward by striking against a pin and friction roller attached to the said bar. The bar is moved upward gradually, as allowed by the cam, by a spring, and is slotted to receive and slide upon a spindle and shafts, and to its upper part is attached a dog which, as the said bar moves upward gradually, through suitable mechanism opens the valve suddenly at the beginning of the stroke. As the valve opens the valve stem is caught and locked by a tappet. At the end of the stroke the valve will be instantly closed by the action of a stiff spring. To reverse the engine, the valve works are thrown out of gear, and the cut off is thrown open by a lever. The engine, when reversed, works at full stroke, and is regulated by the throttle valve. The cut off may also be made reversible by an extra cam, friction pulley, and lever arrangement.

Improved Crib.

Ward B. Carpenter, West Topsham, Vt.—The object of this invention is to provide an attachment to a crib, by means of which the same can be readily changed from the rocking position into a stationary one without being perceptible to the child sleeping therein, and permitting the quick and easy removal of the crib from one place to another. The invention consists of a slide attachment pivoted centrally to the rockers, made of two halves, having casters at their outer ends, by which the rocking crib can be changed directly into a crib moving on casters.

Improved Grain Sieve.

Lorin D. Carpenter, Buffalo Grove, Iowa.—This invention relates to the construction of sieves for cleaning and separating grain, designed for all kinds of separating machines; and consists in a series of perforated angle plates so as to overlap each other, and bent up at their lower edges so as to form long narrow troughs, into which the grain is received, and whence it is discharged.

Improved Device for Preventing Horses from Cribbing.

Alexander Stillwell, Dwaar's Kill, N. Y.—This invention consists in a device or machine for causing pain when the horse attempts to crib. In fastening the device to the horse it is brought in contact with the throat. It consists of a metal frame with levers, guards, etc., suitably arranged. When the horse attempts to crib, the cribbing action distends the larynx and presses upon a cross, which causes points to rise and punish him. When he is quietly eating his feed this action does not take place, and he is fully protected.

Improved Foot Power Apparatus.

Ebenezer Harding and Henry Harding, Delavan, Minn.—This invention consists of a fly wheel, foot treadle, and crank for obtaining motion, and a lever and connecting rod for transmitting and converting the motion to work vertical saws, mortising machines, and the like, arranged in a simple and efficient way, calculated to provide driving mechanism for small shops, by which sawing, mortising, and the like can be done to better advantage than with the ordinary hand power machines.

Improved Lamp.

John Kirby, Jr., Adrian, Mich.—This invention is an improvement in the class of hanging or chandelier lamps provided with a detachable feeding reservoir; and the improvement relates to the construction of the suspending devices of the detachable reservoir, and the means for drawing off the settlings of the permanent reservoir.

Improved Ferry Bridge.

Carroll J. Atkins, Louisiana, Mo.—This invention consists of a bridge or platform for ferry boats arranged to swing down, without obstruction, as low as needed to be level with the boat deck at low water; and an incline in the bow of the boat to run under the projecting end of the bridge and raise it to the level of the boat deck, whether the water be high or low. The invention also consists of large V-shaped notches in the edge of the platform or bridge, and corresponding projections on the boat to enter them, and thus bring the boat and bridge into alignment. This part is more particularly designed for railroad ferry boats and bridges, to insure the alignment of the tracks for running the cars from one to the other.

Improved Boot Heel Screw.

William Ackerman, Flint, Mich.—The object of this invention is to fasten boot heels made partly of wood and leather to the upper part of the boot heels by means of screw bolts, so that by unscrewing them the heels may be easily taken off and put on again, or new ones substituted in their stead. The screws may also be provided with sharp points, to be used in winter and by persons employed in occupations which require a firm hold of the feet, as raftsmen and others.