

McMurtrie wisely concludes: "With these facts before us, we may readily recognize the importance of the development of these deposits in the South, where fertilizing materials are so much needed and are so costly, and especially when they may be obtained for the mere cost of removal."

#### Naval Items.

##### NAVAL ENGINEER CORPS GAZETTE.

Chief Engineer George Sewell, Wm. G. Buehler, and Ezra J. Whittaker, Passed Assistant Engineers J. P. Kelley, H. L. Slosson, John D. Ford, E. T. Philippi, and Richard Inch, and Assistant Engineers William Rowbotham and George Cowie, have been detached from duty and placed on waiting orders.

August 9. Passed Assistant Engineer John F. Bingham's orders to the Tuscarora, North Pacific Station, have been revoked, and he has been ordered temporarily to the Navy Yard at Mare Island, Cal.

#### To Remove Nitrate of Silver Stains.

The following method of removing indelible ink and other silver stains, without the use of cyanide of potassium, is given by Grimm in the *Polytechnisches Notizblatt*: Chloride of copper is first applied to the tissue; it is next washed with hyposulphite of soda solution, and afterwards with water. It is said that this may be employed on colored woven cotton tissues. For white cottons and linens, dilute solutions of permanganate of potash and hydrochloric acid, followed by the hyposulphite of soda and clear water, is preferable. For cleaning the hands, we use iodine dissolved either in iodide of potassium or in alcohol, following by aqua ammonia.

#### Hypochlorite of Alumina in Bleaching.

Dr. E. Jacobsen proposes to use hypochlorite of alumina for purifying bone grease, a gentle heat being employed. This salt is prepared by the mutual decomposition of alum or sulphate of alumina and bleaching powder. A saturated solution is made of the former, and to it is added a corresponding quantity of chloride of lime as a milky liquid. The bleaching is performed, not by the chloride, but by the oxygen liberated as ozone, and the coloring substances are precipitated as lakes by the alumina.

The following is said to be a Texan practice for training sheepdogs: A pup is taken from its mother before its eyes are opened, and put to a ewe to suckle. After a few times, the ewe becomes reconciled to the pup, which follows her like a lamb, grows up among, and remains with the flock, and no wolf, man, or strange dog can come near the sheep; and the dog will bring the flock to the fold regularly at half past seven o'clock, if he is habitually fed at that hour.

#### NEW BOOKS AND PUBLICATIONS.

**THE HOUSEKEEPER'S FRIEND**, a Practical Cook Book. Compiled by a Lady of Zanesville, Ohio, and Sold for the Benefit of the Home for the Friendless. Price \$1.50. Zanesville, Ohio: Sullivan and Parsons, 87 Main street. New York city: Wiley & Sons, 13 Astor place.

This is a collection of recipes, selected with discretion from a great variety of sources. It is a handy and useful volume, and is sold at a very moderate price; so that purchasers will receive value for their money, and will also aid a charitable institution, the nature of which should enlist the sympathies of all classes and creeds.

**THE AMERICAN IRON TRADE IN 1876 POLITICALLY, HISTORICALLY, AND STATISTICALLY CONSIDERED.** By James M. Swank, Secretary of the American Iron and Steel Association. Philadelphia, Pa.: The American Iron and Steel Association, 265 South Fourth street.

We took up this book of 200 pages, in the hope of finding some account of improvement in the condition of the prostrate iron industry, some probability of its thousands of toilers receiving fair wages, and some ground for believing that 30 years of political bolstering has not finally extinguished the trade. We find nothing of these things; but instead, there are 114 pages of censure on the government of Great Britain for its conduct (in bygone times) in dealing with its own interests, and also for its illiberal conduct in now admitting American manufactures duty free. We think that our producers who are now seeking a market in England will hardly concur with Mr. Swank and his fellow theorists in believing that every interest is to be sacrificed to the greed of the particular ring which he represents.

**STRUBLE'S WEBFOOT MAGAZINE**, devoted to Literature, Science and Art, Commerce, etc. Price \$2 a year. Portland, Oregon: Wallace R. Struble.

This new comer into the world of periodical literature draws on a variety of authorities for his articles, one of which, "Suspended Animation as a Preserving Agent," is selected from our own pages, no credit being given for the same.

**LOUISIANA AS IT IS: its Typography, Resources, etc.** By Daniel Dennett. New Orleans, La.: Eureka Press, 33 Natchez street.

A well compiled handbook of the chief features, agricultural, mineral, and climatic, of all parts of the State of Louisiana.

### Recent American and Foreign Patents.

#### NEW HOUSEHOLD INVENTIONS.

##### IMPROVED DOOR LOCK.

Charles Guild, Piedmont, Wyoming Ter.—This invention is a lock having a series of vertically sliding tumblers with beveled ends, the same being adapted to coincide with a notched rib attached to the bolt. It also relates to the construction of the key with removable interchangeable wards secured by a clamp.

##### IMPROVED CHAIR.

Aaron Rice, Fitchburg, Mass., assignor to Walter Heywood Chair Company, same place.—The object of this invention is to improve the construction of the backs of chairs, especially those known in the trade as ladies' crown dining chairs and York dining chairs, in such a way as to make them less liable to come apart, and thus stronger and better. It consists in an improved chair, in which the upper ends of the back posts are connected with the ends of the back top with a tongue and groove joint. The construction prevents the back posts and the back top from working loose and coming apart, and thus makes the chairs stronger and more durable, without increasing the cost of manufacture.

#### HOSE ATTACHMENT TO WASH BASIN CONNECTIONS.

Daniel G. Trembley, Brooklyn, N. Y.—The object of this invention is to provide a simple means for attaching fire hose to the wash-stand pipe or faucet, so that, in case fire breaks out in a room having water from the street main, water can be quickly applied for stopping it. The connection is perfectly made with the faucet, but it may be made with the pipe below the basin. By this attachment, fires may often be prevented which would otherwise get too strong to be extinguished by the ordinary appliances before they can be brought to bear. The hose connection may be connected to the pipe below the basin.

#### IMPROVED FOLDING CHAIR.

George W. Parker, Gardner, Mass.—The object of this invention is to furnish an improved chair, so constructed that it may be easily folded into a compact form for storage or transportation, and which, when opened out for use, shall be strong and firm. With this construction, in folding the chair, the arms and the seat are turned up. The front posts and the rockers are then turned up forward into position, and the chair is folded. The chair is unfolded by reversing this operation.

#### IMPROVED PETROLEUM COOKING STOVE.

Frederick Hildebrandt, New York city.—This is a petroleum cooking stove that rests directly on the lamp, and produces the complete consumption of the gases of combustion of the flame, by an increased supply of air, preventing the smelling of the stove, and furnishes an economical cooking stove. It consists of a perforated sheet metal body resting directly on the lamp, and supporting an interior chimney that is connected at the top by an inverted conical diaphragm with the body, and provided at the base with a burner-encircling cone inside of the chimney to conduct the air both at the inside and outside of the cone to the flame of the burner. The combustion takes place within the chimney and above the base cone, so as to draw the heat upward away from burner and lamp, keeping the body of the stove cool, and admitting the direct position of the stove over the lamp without requiring an insulating air space or cooling water chambers.

#### IMPROVED LOCK FOR DOORS.

Theodore Hendricks, New York city, assignor to himself and William E. Price, Brooklyn, N. Y.—This invention consists in providing the split or double spring of a tubular lock with hook ends that differ in length, to be applied in connection with the catch plate. The split spring is attached to the side of the bolt by a stud, and is raised by the key without raising the bolt to engage and disengage the hooks with the catch slots for fastening the bolt. This spring is made in two parts, one of which has a longer hook or catch than the other, to be raised by a bit, and there is a stud on the bolt to prevent it from being raised by a key not having the ward. Shoulders in the side of the bolt constitute forward and backward stops, and act against a stud which bears against the side of the bolt to keep it in its place.

#### IMPROVED WASHBOARD.

Westly Todd, Wauseon, Ohio, assignor to himself and H. H. Williams, same place.—This invention furnishes a washboard which shall be so constructed that the gritty water from the soiled clothes may run off at once, which will facilitate the washing, and will produce a stronger and more durable board than those constructed in the usual way. This washboard has on its back a zinc facing, provided with parallel corrugations, beginning at each side and meeting at an angle in the middle, a groove being arranged at said angle.

#### IMPROVED FIREPLACE.

Molesworth B. King, Chicago, Ill.—This is an air-heating contrivance with a fire grate for heating upper rooms; and consists of a fire grate, below which is an ash sifter over the ash pit, for sifting the cinders from the ashes as they fall into the pit, and having a rod extending out at the front or side of one of the joints for working it. There is a blower, in which a damper admits air to prevent the blaze from striking the enameled front of the fireplace, and for admitting a regulated supply of air over the fire bed. A pipe admits fresh air from outside to the space under the fire grate, for supplying air for combustion. The inventor also proposes to make a hollow handle to the blower, with perforations, to allow the air to circulate through it and keep it cool.

#### IMPROVED IRONING APPARATUS.

Daniel Bennett, Chillicothe, Ohio.—This invention consists of a reciprocating iron, with contrivance for heating it by steam, which is admitted to and exhausted from it, while running, by pipes having an extension joint, with stuffing box working correspondingly with the iron; and also of a work table having vertical and lateral reciprocating movements, in combination with the reciprocating iron, to present the work to the iron. The work table is mounted on a support, which is adjustable laterally in the support by a lever, to allow the goods to be shifted along the iron as the work progresses; and it is mounted thereon by springs which yield to the inequalities of the goods, and press them up to the iron by an elastic pressure calculated to enable the iron to work easily and pass the goods uniformly.

#### NEW WOODWORKING AND HOUSE AND CARRIAGE BUILDING INVENTIONS.

##### IMPROVED WEATHER BOARDING.

Thomas Reynolds, East New York, N. Y., assignor to himself and Jacob W. Erreger, of the same place.—This invention consists of the siding, roof boarding, and other outside clapping of buildings, tongued and grooved in the lap to make tighter and more efficient joints, for preventing the air from blowing in and out, and also to prevent dampness from working through. Siding has been rabbet jointed, but such joints, this inventor claims, are not sufficiently effectual for excluding damp air and strong winds; and he proposes to employ this method in roof boarding as well as siding.

##### IMPROVED SCROLL SAW.

Peter G. Giroud, Brooklyn, N. Y., assignor to himself and Theodore L. Jabine, of same place.—The object of this invention is to provide an improved scroll saw for sawing the minutest work in wood, iron, and other materials, by providing a steady tension that keeps the saw blade at an even strain during its whole stroke, without interfering in the least with the driving power. This is effected by a saw blade, clamped securely in such manner that it may be put in or removed with great facility. The back of the saw blade is steadied along the table to work with great accuracy.

##### IMPROVED SAW-FILING MACHINE.

Gershom Wiborn, Manistee, Mich.—This invention consists of a head in which a frame is supported, in which the reciprocating file-carrying rod works, the said head being a solid block, with a bifurcated extension of one side forming a couple of legs, which straddle the saw, and fasten the head to it by set screws, and one leg carries an adjustable rod, which holds a gage, by which the position of the head is gaged from the collar of the saw arbor. The pivot connection of the reciprocating rod-holding frame is adjustable in the head, to regulate the inclination of the file to bevel the top of the tooth, and said frame is adjustable, to adjust the file for the bevel of the front of the tooth, so that the file may be fixed for making both of these angles without changing either of its inclinations.

#### IMPROVED MACHINE FOR DRESSING STAVES.

Adam Luckhaupt, Columbus, O.—This invention relates to a machine for manufacturing staves for beer kegs and barrels of all kinds, in such a manner that the wood is cut transversely to the grain, and not in the direction of the same, the wood being readily and without danger inserted into the machine, and quickly cut to the shape required. It consists of two series of cutters that are secured to shafts revolving in opposite directions, and adjusted at such distance as to cut the shape of the stave. The stave is secured to the clamps, prongs, or jaws of a weighted and swinging frame that runs in arc-shaped guides, being locked in vertical position, in connection with a sliding table or guard plate, and fed to the knives by releasing the locking device, and swinging the frame into horizontal position to expose the wood to the action of the knives. The finished stave is then released from the clamps and dropped, the frame being carried back to take up the next piece of wood.

#### NEW AGRICULTURAL INVENTIONS.

##### IMPROVED ANIMAL MUZZLES.

Rufus K. Blodgett, Morrison, Ill., assignor to himself and Henry M. Myers, of same place.—The first of these two inventions is an improved muzzle for calves and other animals, to prevent them from sucking other animals or themselves. It consists in the combination, with each other, of a part provided with a knobbed arm, and having a short perforated tenon upon its outer end, and a long tenon with two or more holes upon its inner end, the part provided with a knobbed arm, and having a hole or socket through its base, the open rings or links, and the plate having its upper edge turned over. The second invention furnishes a device for preventing calves from sucking cows, and for preventing cows and other stock from sucking themselves or each other. It consists of a muzzle formed of a suspended plate, hinged loops and a wire spring clamp. With this construction the muzzle will prevent the animal to which it may be applied from sucking itself or another, will allow the animal to eat and drink freely, and may be worn without pain or inconvenience.

##### IMPROVED CULTIVATOR PLOW AND HARROW.

Jacob Haynes, Basnettsville, W. Va.—The object of this invention is to furnish a machine for loosening up the soil and cultivating corn and other crops platted in hills and drills, and which shall be simple in construction and easily guided and controlled. The machine seems to be well adapted to the purposes for which it is designed, but it is too complicated to admit of description without engravings.

##### IMPROVED SEED PLANTER.

Henry O'Neal, Concord, Tenn.—The object of this invention is to furnish a planter, for planting cotton, corn, peas, and other seeds, so constructed as to enable the planting to be done in perfect check row, without previously marking the land. The machine which appears to be well adapted to the purpose for which it is intended, is too complicated for explanation without engravings.

##### IMPROVED STACK COVER.

George E. Tuck, Herbert Dorn, and James Steinson, Ridgway, Ja.—This invention consists in a conical stack cover, provided with a lifting ring at its apex. A cap of canvas or other approved material is constructed in conical form, and having a rope or cord around the base, with rings on it for hitching on the stay ropes to keep the cap in place, and stay the stack against the wind. The cap may be made of waterproof material, but probably ordinary canvas, with a coating of waterproof paint, will generally be used. A ring or loop is placed at the apex of the conical cap, so that the latter may be conveniently lifted with a rod or pole having a fork at one end, and then dropped over the grain or hay without the trouble of climbing, by ladder or otherwise, upon the stack.

##### IMPROVED PLOW FOR LAYING OFF LAND FOR TOBACCO.

John Preston and Charles W. Tennis, Millford, Ky.—This invention is an improved plow for laying off land and making the hills for tobacco, cabbages, and other plants cultivated by transplanting, so constructed as to open a furrow, roll the land, and mark the places for the hills. It consists in a wheel having diamond-shaped blocks attached to its face, in combination with a beam or frame and the plow, and in combination with guide arms, sliding band, and adjusting lever, the beam or the frame, and the plow.

##### IMPROVED PLOW.

Jacob Heckendorn, Ann Arbor, Mich.—In this plow, a skiver, jointer, or colter, is connected with the plow in such a way that its position will not be changed by the lateral adjustment of the beam, that it will leave space for the ready escape of rubbish, that it may be adjusted to work deeper or shallower in the ground, and will throw the rubbish into such a position that it will be covered by the furrow slice. With this construction, a skiver cuts a smooth, clean groove or channel, and throws the soil and rubbish in front of the turning furrow slice, so that it will be covered by said slice; and the plow beam may be adjusted without affecting the position of the skiver, and a large space will be left beneath to allow rubbish to pass off freely.

##### IMPROVED ANIMAL TRAP.

John H. Morris, Seward, Neb.—This invention is an improved trap for catching animals, for the entrance of stock yards, for the chutes through which cattle are loaded upon cars, and for other similar uses, which shall be so constructed as to remain open except when an animal may attempt to go out, and which will again open as soon as he desists from his attempt. It consists in the combination of the hinged gate and the tilting platform, with the end or ends of a passage, and in the combination of the second passage, the box, and the drop gate with the main passage, provided at one or both ends with a hinged gate and a tilting platform.

##### IMPROVED RIDING HARROW.

Isaac N. Harris and William H. Bowne, Pavilion, Ill.—This invention is an improved riding harrow, simple in construction, effective in operation, convenient in use, easily guided and controlled, and of light draft. The wheels revolve upon the journals of the axle. The axle is made long, so that the harrow frame may be received between the wheels. To the middle part of the axle is attached a frame which consists of two side bars, connected at their ends by two end bars. The tongue, to which the draft is applied, by which the harrow is guided, is attached to the axle and to the front cross bar of the frame. The harrow frame is made in two parts, halves or sections, each section consisting of six, more or less, parallel cross bars, to which the teeth are attached, and to which, near the ends of their upper sides, are attached two longitudinal bars. To the forward end of the longitudinal bars of each part of the frame are attached the lower ends of two chains which cross each other, and are hooked upon hooks attached to the middle and outer parts of the long cross bar attached to the front bar of the frame, consisting of the side bars. To the rear ends of the longitudinal bars of each part of the frame are attached the lower ends of two chains, the upper ends of which are attached to the middle and outer parts of the axle. By this arrangement of the draft chains the parts of the harrow frame are free to adjust themselves to the surface of the ground, however uneven it may be, and at the same time will be kept in their proper relative positions.