

MANUFACTURING, MINING, AND RAILROAD ITEMS.

The new steelmanufactory established last March in Chicago, is we learn from the Chicago *Railway Review*, in successful operation, having a capacity of turning out 2,600 pounds of steel daily, the steel being of excellent quality.

According to the *Ellsworth American*, Maine, the annual production of lumber there is 35,000,000 feet of long lumber; 200,000 sugar box shooks; 200,000 laths; 5,000,000 shingles; 200,000 clap boards, and a large quantity of smaller stuff. Value of annual production estimated at from \$790,000 to \$950,000.

Holyoke, Mass., has ten paper mills in operation, turning out twenty-six tons of paper daily. The largest manufactory of writing paper in the United States is said to be located in this place. It turns out five tons per day.

The October product of the Hecla copper mine was 259 tons; of the Calumet 162; of the Hancock, 20 tons, 68 pounds; of the Evergreen Bluff, 22 tons 941 pounds; of the Knowlton, 20 tons, 1,366 pounds.

All the operatives under fifteen years of age, in the knitting factory in New Britain, Conn., have been discharged for three months, in accordance with the statute forbidding their employment more than nine months in the year.

Building railroads in winter and by moonlight may seem strange to Eastern people, says the *Kansas Journal*, but it has been done heretofore, and will be again, if we have our usual Kansas weather.

The Union Pacific has a lodging house for a force of four hundred men near the summit of Sierra Nevada, whose sole duty is to keep the track in that vicinity clear of snow during the winter.

Only 330 miles of railroad need be built to connect Portland, Oregon, with the Pacific Railroad by steam; 315 miles of the 645 miles can be traveled by steamboat.

The purchase of the leased lines of the Chicago and Northwestern Railroad Company by the Union Pacific is mooted.

Veins of coal three feet in thickness are being worked in Southern Kansas, and reports say are passing well.

NEW PUBLICATIONS.

NEWSPAPER DIRECTORY.

Messrs. Geo. P. Rowell & Co., the enterprising advertising agents, No. 40 Park Row, New York, are about to issue a complete directory of American newspapers, to be printed on fine paper and well bound. Price \$5.

EVERY SATURDAY.

One of the features of the new volume of "Every Saturday" published by Field, Osgood & Co., of Boston, will be the series of occasional papers entitled "New Uncommercial Samples," by Charles Dickens.

Recent American and Foreign Patents.

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

PAPER PULP.—C. C. Fitzgerald, Phoenix, N. Y.—This invention relates to a new article of manufacture prepared from the stock of the common plantain—plantago-major—which, especially in the West Indies, grows to a considerable size, and from which, by proper manipulation, a superior paper pulp can be produced.

ICE CUTTER.—C. W. Flint, Washington, D. C.—This invention has for its object to furnish a simple, convenient, and effective machine for cutting or shaving ice in restaurants, saloons, for soda fountains, and for similar uses.

WAGON BRAKE.—George Wesley Welsh, and George Wylie, Arlington, Wis.—This invention relates to a new and improved automatic brake for wheel vehicles, and it consists in a novel construction and application of the same, whereby a very simple, economical device for the purpose specified is obtained.

SHINGLING ROOF ANGLES.—Benjamin Flowers, Jerusalem, Ohio.—This invention relates to a new and improved method of shingling the gutters, valleys, or angles, formed by the joining of roofs, whereby all leakage is prevented without any important increase in the expense.

BILL HOLDER.—James D. Field, Wataga, Ill.—This invention relates to a new and improved method for holding bills, or orders, or other paper which it may be necessary to refer to.

STEAM GENERATOR.—D. F. McKim, Austin, Nevada.—This invention consists in using, in combination with a steam boiler, a series of generating and conducting tubes, connected together and to the boiler, through which the feed water is forced by the feed pump.

METHOD OF CONSTRUCTING THE CYLINDERS OF STEAM ENGINES.—William Inglis, Manchester, England.—This invention has for its object, by certain improvements in the constructive details, to render certain kinds of steam engines more durable, and less likely to get out of order, than they have hitherto been.

TUBES OR FLUES OF STEAM BOILERS.—George E. Van Amringe, New York city.—This invention has for its object to improve the construction of the flues of steam boilers so as to economize the heat, or in other words, to obtain a greater practical effect from the same amount of fuel than when the flues are constructed in the ordinary manner.

SUMMER ATTACHMENT FOR STOVES OR RANGES.—N. O. Bond, Hyannis, Mass.—The object of this invention is to provide an attachment for stoves, whereby the necessity of building a fire in the fireplace of a stove or range is obviated in summer, when a small temporary fire only is needed; thus economizing fuel, labor, and time, and avoiding the excessive heat occasioned by the ordinary fire.

COOLER FOR WATER, MILK, ETC.—Herman Pietsch, New York city.—This invention has for its object to furnish a simple and convenient cooler for water, milk, etc., and which may at the same time be used as a refrigerator when required.

DOOR RUG ALARM.—R. B. Carsley, New York city.—This invention has for its object to furnish an improved alarm for attachment to doorways and window frames, which shall be so constructed and arranged that it may be impossible for any one to enter through the door or window even when said door or window may be open, without sounding an alarm, and which shall at the same time be simple in construction, easily applied, and readily disengaged when not required.

MAKING CONFECTIONARY.—John Gardner, Philadelphia, Pa.—This invention relates to a new and useful improvement in the manufacture of ornamental confectionary, whereby the same is greatly improved.

BREECH LOADING FIRE-ARMS.—Pierre Jules Jacob Noël, Paris, France.—This invention relates to improvements in breech-loading ordnance of the revolving-breech class, designed to provide an arrangement whereby plurality of shots may be fired simultaneously if desired, or successively with intervals for sighting when accuracy of firing is required.

WATER SUPPLY REGULATOR.—George P. Nutting, Chicago, Ill.—The object of this invention is to maintain the proper water supply in boilers by admitting steam to the supply pump, whereby the water reaches a certain level; and also to announce to the attendant the state of the water level when for any reason the supply pump fails to maintain the proper level.

VENTILATOR OPENER FOR CARS, ETC.—W. C. Stickney, and J. McGee, Steubenville, Ohio.—This invention has for its object to furnish an improved device, by means of which the pivoted sash shutter or valve of the ventilator may be opened, closed, or secured at any desired angle, conveniently and securely.

ATMOSPHERIC GOVERNOR.—B. Mackerley, Paint, Ohio.—This invention consists of a cylinder having a piston actuated by a crank or other suitable means connected to the machine or motor for which it is to act as a governor. The cylinder being provided at each end with weighted valves, which

govern the ingress and egress of air into the cylinder, and thereby the resistance of the piston to the machines by the force of the blast on the valves.

CULTIVATOR.—James Hinds and James Gee, Conologue, Ill.—This invention consists of an improved arrangement of means for raising the plows out of the ground and suspending them above it; also an improved method of hanging the plow beams to the frame; and also, an improved means of adjusting the pitch of the plow.

HAND RAKE.—A. Winters, Washington, Pa.—The object of this invention is to provide a more efficient hand rake than was heretofore in use. It consists in forming the rake head curved and attached to the handle with its concave side toward the handle. The tang is also bent up so that the whole of the teeth will operate when in contact with the ground.

AUTOMATIC ICE CHUTE.—John A. Wolfer, Rondout, N. Y.—This invention relates to a new and useful improvement in the method of handling ice in the process of transferring it from the ice house to barges or vessels for transportation.

PAPER-MAKING MACHINERY.—James Wrinkle, Lee, Mass.—This invention relates to a new and useful invention in paper-making machinery, and has for its object the prevention of the bluespots and lumps being formed or made in the paper during the process of manufacture.

HORSESHOE.—Joseph Barker, Champlain, N. Y.—This invention is designed to prevent what is termed "over-reaching" in horses, which consists in striking the rear part of the forefeet with the bent part of the hind feet while trotting.

DEVICE FOR TAKING UP TREES.—Jesse Ryder, Sing Sing, N. Y.—This invention relates to a new improved device for taking up trees with a view of transplanting them, and is more especially designed to facilitate the transplanting of large trees.

APPLYING CAST STEEL TO ARTICLES OF IRON.—William H. Singer, Pittsburgh, Pa.—This invention relates to an improvement in making "iron center," "iron face," "iron back," or "cast steel," whereby (for the uses for which steel is intended) the articles are equal to pure steel.

PLOW.—Edward Wiard, Louisville, Ky.—The object of this invention is to provide a simple and effective means for attaching the straight handle of plows to the mold board.

LAMP.—W. W. Jacobs, Hagerstown, Md.—This invention relates to a new and improved lamp of that class which are designed for burning coal oil and other similar hydro-carbons which require a large amount of oxygen to support proper combustion.

COTTON GINS.—A. A. Porter, Griffin, Pa.—This invention relates to an improved arrangement of means for causing the cotton being fed with the gin to have a to-and-fro movement in a lateral direction for bringing it more perfectly into contact with the saws, thereby more thoroughly separating the seed, and at the same time working the fiber more evenly.

REEL AND SWIFT.—Wm. G. Brown, Canton, N. Y.—The nature of my invention relates to improvements in reels for winding yarn whereby it is designed to provide a reel that may be also used as a swift, and with adjustable arms which may be adapted to wind skeins of any length, and which will also give a signal to indicate when a given number of yards have been wound.

BORING TOOLS.—C. W. LeCount, Norwalk, Conn.—This invention relates to a useful improvement in tools (as drills and augers in boring bits) for boring metals and wood, and it consists in grooving the sides of the drills for boring metals, and the lips of augers and double-lipped bits for boring wood; whereby they are made to operate more perfectly and with much ease than ordinary boring tools.

STOP FASTENER FOR WINDOWS.—Henry E. Hull and Burlin T. Merritt, Sag Harbor, N. Y.—This invention relates to an improvement in the method of fastening the stop or bead casings which hold in the sashes of windows, and it consists in the application of an eccentric lever for that purpose, in combination with a pin in the bead or stop casing.

FILTERING OR POURING BOTTLE.—V. M. Griswold, Peekskill, N. Y.—The object of this invention is to construct a bottle for photographers, chemists, apothecaries, and other uses, which is so arranged that in it the liquid is filtered, and that such filtered liquid can, at the same time, be at will poured out of the bottle. It further consists in fitting an open tube through the stopper of a larger bottle. The liquid to be filtered is poured into the larger bottle, and is, before it can ascend in the tube, filtered so as to be pure when in the tube. It can then be conveniently poured out through the upper end of the tube without interfering with the filtering process.

CHILDREN'S CHAIR.—J. H. Apel, Boston, Mass.—This invention has for its object to prevent the chairs of children from falling over while the children sit at table. Many children have been injured by the tipping back of chairs, and as their chairs have to be higher in order to bring them within reach of the table, the danger of falling, as well as the subsequent injury, will be greater than on ordinary chairs. It also consists in connecting the arm supports of the chair with the table by means of chains and screw-clamps, so that thereby the chair will be fastened to the table and cannot fall.

FEED ATTACHMENT FOR MACHINES.—Samuel Brown, Philadelphia, Pa.—The object of this invention is to provide an improved motion of the fingers of the feed attachment, whereby the said fingers are actuated to move forward in feeding the material to the machine in a horizontal manner, and at the completion of the forward movement, withdraw below the surface of the feed board or apron and return beneath the said board to again rise and repeat the feeding movement, thus leaving room (during their backward movement beneath the feed board), to place on the apron the succeeding quantity of material which is to be fed up to the operating mechanism of the machine.

MACHINE FOR WEIGHING AND MEASURING GRAIN.—Lester Reynolds, Owatonna, Minn.—This invention is a cheap, simple, and durable apparatus for automatically weighing and measuring grain and registering the quantity thereof.

WROUGHT-IRON PIER FOR BRIDGES.—E. M. Grant, Macon, Ga.—This invention has for its object the construction of a simple, strong, cheap and durable iron pier for bridges and other lofty structures.

GAS MACHINE.—Jacob D. Spang, Dayton, Ohio.—The object of this invention is to improve the process of making illuminating gas or vapor from naphtha, gasoline, and other hydro-carbons, that a better gas can be produced, in larger quantities and at less expense, than heretofore; and the same machine can be employed, at pleasure, either to the manufacture of gas, directly from the hydrocarbon, or to the carbureting of common atmospheric air, as may be desired.

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; beside, as sometimes happens, we may prefer to address correspondents by mail.

SPECIAL NOTE.—This column is designed for the general interest and instruction of our readers, not for answers to questions of a purely business or personal nature. We will publish such inquiries, however, when paid for as advertisements at \$1.00 a line, under the head of "Business and Personal."

All reference to back numbers should be by volume and page.

W. R. W., of Wis.—A caveat may be extended from year to year upon payment of the \$10 official fee. There is considerable excitement about velocipedes in this city, and training schools are in operation. With the opening of spring the interest will increase. Some manufacturers are overcrowded with orders. Such an improvement as you speak of ought to pay; but this depends so much upon proper management that we cannot give advice.

J. S., of R. I.—You will find nothing better for removing external and temporary rust from steel and iron than cocoa nut husk. It is better than cotton waste and oil or turpentine. We always kept it in the shop for cleaning polished surfaces that had become rusted.

W. B. C., of Mass.—Oiled furniture that has been scratched or marred may be restored to its original beauty simply by rubbing boiled linseed oil, used by painters, on the surface with a wad of woolen rags. Varished furniture, dulled, may be similarly restored by the use of a varnish, composed of shellac dissolved in alcohol applied in a similar manner. Common beeswax rubbed over furniture and heated by the friction of a woolen wad briskly used is also an excellent furniture polish.

A. N. B., of N. Y.—Writing ink should be kept carefully from the air if it is desired to preserve it limpid and in proper condition for writing. We have kept ink in a small office inkstand for several months pure and in good condition by keeping it covered from atmospheric contact. The atmosphere oxygenizes it and renders it thick and viscid.

J. W. H., of—Informs our readers that a better material than shagreen or shark skin for striking matches upon, is a section of iron wire cloth of the grade from No. 20 to No. 30; not being affected by damp weather, nor clogging. Our correspondent says it is not in general use. This is so, but it is used by those who, thinking, know.

A. G. B., of Mass.—To remove clinkers from the fire bricks of an ordinary cooking stove, put in a half peck of oyster shells on the top of a hot coal fire. The clinkers will loosen from the bricks. You may need to repeat the process.

B. H. M., of N. H., writes that he has succeeded in making plaster casts so tough that they will bear the driving of a nail into them without cracking, by immersing them for a sufficient time in a hot solution of glue, to permit its permeating the entire mass.

J. H., of Mass.—A lacquer for "bronzed dipped work" may be made thus: Alcohol, 12 gallons; seed lac, 9 lbs.; turmeric, 1 lb. to the gallon; Spanish saffron 4 oz. The saffron may be omitted if the lacquer is to be very light. A varnish for silvered brass may be obtained by dissolving shellac in alcohol. Some prefer pure copal varnish and others gum Arabic dissolved in alcohol.

D. F., of Nova Scotia.—This correspondent sends a specimen of concrete from the inside of his boiler, which is simply a carbonate of lime, very hard and about one eighth of an inch thick. He says his boiler is of the locomotive pattern and therefore difficult to free from scale by chipping. He asks for some composition that will remove the scale and prevent its future formation. Such compositions are advertised in our columns, but we have never tested them. Winans' boiler powder, however, we have heard recommended by practical engineers. Pure water for the boiler is a certain remedy.

P. V. C., of Me., asks if wearing rubber boots continuously is injurious to the feet. We do not consider them particularly so. They retain the perspiration and keep the feet moist which may be uncomfortable and inconvenient, but not necessarily injurious. A friend states that, wearing rubber boots for several months while mining in California softened his corns and reduced them to natural flesh.

J. O. S., of Mass.—Asafetida, which you incorrectly denominate "that stinking African gum," inasmuch as it is of Asiatic origin, is largely used as a condiment by the people of India and Persia, and is an important component of some of our relishes and sauces. Its effects on the system is that of a moderate stimulant, an expectorant, and anti-spasmodic. Prejudice concerning its odor is the worst objection that can be urged against it, an objection that may also be brought against that delicious vegetable, the onion.

Business and Personal.

The Charge for Insertion under this head is One Dollar a Line. If the Notices exceed Four Lines, an Extra Charge will be made.

An Amateur offers for sale an elegant lathe, a small planer, and many attachments and tools. Address Amateur, Box 5055, New York P. O. For sale cheap—one engine lathe, 5 feet swing, 20 feet bed, in perfect running order. Address D. Lane, Montpelier, Vt.

Second-hand locomotive or other tubular boilers, of 100-H. P., in good order, wanted. Address M. P. Smith, Box 1153 P. O., Baltimore.

A brass molder, who thoroughly understands the whole business of a brass foundry, can obtain a permanent situation at the Cleveland Brass and Pipe Works, No. 61 Center st., Cleveland, Ohio.

Air-pump manufacturers please send circulars to B. Mackerley, Paint, Highland Co., Ohio.

Get a fire extinguisher for your building. It may save it from destruction. Send to U. S. Fire Extinguisher Company, 8 Bay st., New York, for descriptive circular.

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

For fifty cents I will send, postpaid, one of my patent paper cutters and rulers. Address S. W. Wilcox, South Milford, Mass.

Wanted—A man competent to furnish drawings and make wood patterns. Address D. S. Quimby, Henry, cor. Poplar st., Brooklyn, N. Y.

\$100 will buy the entire right for the cheapest, strongest, and best "Screw Wrench in the United States, (latest patent). Sample sent to manufacturers. Address Alling & Co., Madison, Ind.

Wanted—Marbelizer of slate, marble, and iron mantles. Address Bissell & Co., Pittsburgh, Pa.

Water-power, with grist & sawmill, 90 miles from N. Y., for sale, good location for paper mill or manufactory. H. Stewart, Stroudsburg, Pa.

Fire-arm patent for sale.—The patent for breech-loading fire-arm, issued to Robert E. Stephens, June 11, 1867. A new and useful improvement. For terms, address C. Legge box 773 New York Postoffice.

J. H. White, Newark, N. J., will make and introduce to the trade all descriptions of sheet and cast metal small wares, dies and tools for all kinds of cutting and stamping, patterns, etc., etc., for new and experimental work.

Wanted—A good man, thoroughly posted in the working of spoke and wheel-making machinery, as foreman in a wheel factory at Marietta, Ohio. A good salary will be paid to one who can come well recommended. Address F. W. Minshall, Sec., Postoffice box 204, Marietta, Ohio

See A. S. & J. Gear & Co.'s advertisement elsewhere. Keep posted.

For descriptive circular of the best grate bar in use, address Hutchinson & Laurence, No. 8 Bay st., New York.

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

N. C. Stiles' pat. punching and drop presses, Middletown, Ct.

Prang's American chromos for sale at all respectable art stores. Catalogues mailed free by L. Prang & Co., Boston.

Winans' boiler powder, N. Y., removes and prevents incrustations without injury or foaming; 12 years in use. Beware of imitations.

The paper that meets the eye of all the leading manufacturers throughout the United States—The Boston Bulletin.