

**Improved Corn Dropper.**

Robert M. Bowman and William H. Bowman, London, Ohio.—This invention consists of a nopper bottom having a hole for dropping the grain into it, with a supplementary slide for closing the hole arranged on its under side. The bottom is constructed to slide forward and back to bring the hole under the grain in the hopper, and then move it beyond the cut-off to the place of delivery. At the same time, the hole is opened by carrying the supplementary slide against a stop, which holds it against moving with the hopper bottom as soon as the hole has passed beyond the cut-off. The bottom continues its motion as far as the width of the hole, and then goes back for another charge, the supplementary slide being closed during the back movement by a spring. The arrangement is designed to prevent the choking and clogging common to most droppers in use.

**Carbonic Acid Gas Generator and Soda Water Fountain.**

Frederick W. Wiesbrock, New York city.—The first invention is an improved apparatus for generating carbonic acid gas for charging soda fountains, and for other uses, which shall be so constructed that the operator can discharge any desired amount of acid into the generator, as may be required, and know exactly how much remains in the acid chamber, and which can be operated without an agitator. To facilitate and insure the thorough intermingling of the acid and marble dust, cross bars are extended across the middle part of the generator, and have their ends secured to the shell of the said generator. The dome or gas chest is connected with the generator by one or more pipes, and in the top or cover of the dome are formed two openings. One opening is closed with a screw cap, and the other is connected with a pipe which leads down at one side of the dome and passes through or is connected with the hollow gudgeon of the receiver, so as to conduct the gas to the washer without being disturbed by the oscillation of the generator. The acid chamber has gudgeons formed upon its sides, which work in bearings in the sides of the dome. One of the gudgeons projects and carries an index finger which moves along an index plate on the side of the dome, and thus indicates the exact amount of acid that is poured out of said chamber. In the upper side of the acid chamber is a hole which, when the generator stands at rest in a horizontal position, is directly beneath one of the dome openings, so that the acid poured in through the said opening may flow into the acid chamber. By this construction, the contents of the generator will be thoroughly intermingled, by simply oscillating the said generator, which movement does not affect the acid chamber, which swings upon its pivots and is kept right side up by gravity. This construction also enables the generator to be turned into a vertical position, so that the refuse can be readily discharged without its being necessary to retain sufficient gas in the generator to blow out the said refuse, as is the case with the ordinary apparatus, thus effecting a great saving of gas. The same inventor has also devised an improvement in fountains for soda water, etc., in which the cylinder has a removable bottom, with a downward flange. There are hoops around the cylinder, and a lining; and an overlapping cover, a discharge pipe, and a discharge cock are also provided. The lining is made to loosely fit the cylinder, and is held to the cover and to the discharge tube by flanged nuts. The bottom is attached to the lower end of the cylinder by means of a peculiar base piece, hoop, and screws, so that it may be readily detached. When the bottom pipe and nut are removed, the lining and nut may be taken out. By making the fountain in this manner, it is claimed, the expense of the cylinder is greatly lessened, and all needed repairs to the lining easily and cheaply made.

**Improved Railway Car Brake.**

Luther Adams, Mattoon, Ill.—A friction disk or wheel having a notch is the chief medium for bringing the brake mechanism into action. This disk is mounted on journals in the bifurcated end of a plate which is hinged to a cross bar or timber. A spring is attached to said plate, and has a hole in its free end to receive a rod which forms the short arm of a bent lever. This last extends above the platform, and is pivoted thereto so as to be easily accessible. A spring also holds the disk out of contact with the axle. When it is desired to apply the brakes, the lever is operated to depress the spring plate, and thus bring the disk to come in frictional contact with the axle, which causes it to revolve one half a revolution, or until the axle enters the groove or notch, when the disk will remain locked until the pressure on the spring is relieved. This movement of the disk upon its axis applies the brakes, since it winds up the chain, which is secured in a circumferential groove of said disk, and extends back and connects with one end of a bar that is pivoted to the brake beam. By suitable mechanism, the action of the friction wheel is made automatic.

**Improvement in Heating Air and Supplying Boilers therewith.**

George E. Hibbard, Fond du Lac, Wis.—There is an air holder on the top of the boiler, near the smoke stack, into which air is forced by one or more air pumps, worked by the engine and connected with it by pipes. A pipe, with a check valve, connects this holder with a heating coil in the space, at the front, from which the hot air and exhaust steam escape. This coil is continued from the bottom of the space to the top of the boiler, where it connects with a pipe inside the boiler, which extends back into the steam dome, and discharges the air into the throttle pipe. The cold air is condensed to the extent of the boiler pressure, when it passes the check valve by the pumps, and what is gained afterward by the expansion is utilized as working force in the engines. In case air brakes are used on the cars, it is proposed to take the air for working them from this holder by a pipe, and thus utilize the same air pumps for supplying them. By the use of expanded air in connection with the steam, it is claimed that a large measure of heat which is otherwise wasted is utilized, thus economizing about twenty per cent of fuel.

**Improved Dust Pan.**

Orlando C. Forsyth, Jr., Newburgh, N. Y.—This invention is a dust pan provided with a handle made of wire bent at the middle to form an oblong end loop, next twisted together, then bent laterally and downwardly to support the rear of pan, so as to form legs of such a length as to support the pan in proper position for the dirt to be swept into it, and which will at the same time prevent the dust pan from being pushed back by the broom when sweeping the dust into it.

**Improved Meat Holder.**

Sarah Bessel, Shamokin, Pa.—This invention serves to hold meat while the same is being cut. It consists of a board clamped by set screws to the table and carrying two upright adjustable rollers between which the meat is placed. Vertical screw bolts also support a concave cross bar, which, on being forced down upon the meat, holds the same firmly in place.

**Improved Car Mat.**

John O'Neill, Brooklyn, N. Y.—The floors of street cars are usually covered with a wooden grating, made in sections, called car mats. As these mats are now made, the slats or bars are made to run all in one direction, either longitudinally or transversely with the car. The present invention consists in forming each separate section with groups of slats, arranged at right angles with each other, thereby, it is claimed, greatly strengthening the mat and rendering it durable.

**Improved Till Alarm.**

John F. Baldwin, Nashua, N. H., assigns to himself and Miles Alarm Till Manufacturing Company, Providence, R. I.—The receptacle in which the bolts and levers are placed and work consists of a box, the front and sides of which are cast in one piece, and the rear side of which is closed by a guide plate. Bolts are arranged so that their bodies fit into an upper chamber of the box, and their tops project in front and rear to rest upon the upper edges of the box and guide plate. The lower ends of the bolts are inclined and rest upon the upper ends of the one armed levers which have their fulcrum in the guide plate. By suitable construction, when the lower parts of the one armed levers are held back by springs, their upper ends are inclined to correspond with the inclined lower ends of the bolts. When the bolts are so arranged that the inclination of their lower ends may correspond with the inclination of the tops of the levers, the forward movement of the lower ends of said levers will raise the said bolts; but when the bolts are reversed, the forward movement of the lower ends of the said levers will lower them. By other construction, when all the bolts are down, lugs, when the drawer or till is drawn outward, will pass out beneath other lugs; but should the till or drawer be drawn upon without all the bolts being down, the first lugs will strike against and cannot pass the others. There is other apparatus so arranged that, when the drawer or till is drawn upon without all the bolts being down, a lug releases a lever from a ratchet and sounds the alarm.

**NEW BOOKS AND PUBLICATIONS.**

**A SELF-MADE WOMAN: or Mary Idyl's Trials and Triumphs.** Price \$1.50. New York: S. R. Wells, 389 Broadway.

This little tale is one of an unexceptionable moral tendency, in which the value and importance of the publisher's speciality of hygienic treatment is thoroughly displayed.

**A NEW PATH IN ELECTRICAL THERAPEUTICS: also, a Thorough System of Hygiene.** By Dr. Elizabeth J. French. \$2.50. Philadelphia: E. J. French, 1609 Sumner street.

This work is lucidly written, and contains much that is new and even surprising to the reader, especially the accounts of the diagnosis of diseases in various parts of the body by applying the voltaic current to different parts of the cranium. Dr. French also publishes a lecture on alcohol, and sells an electric baking powder.

**HOW TO BECOME A SUCCESSFUL ENGINEER, being Hints to Youths intending to Adopt the Profession.** By Bernard Stuart, Engineer. 50 cents. New York: D. Van Nostrand, 23 Murray and 27 Warren streets.

A valuable little book of sound, sensible advice to young men who wish to rise in the most important of the professions.

**A MANUAL OF QUALITATIVE CHEMICAL ANALYSIS.** By F. Beilstein. Translated by William Ramsay. 75 cents.

**NAUTICAL ASTRONOMY, for the Use of Science Classes and Seamen.** By Henry Evers, LL.D. 75 cents.

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**THE "CHRONICLE" SHOE AND LEATHER ALMANAC FOR 1874** New York: W. A. Van Benthuysen, 6 Ferry street.

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**THE DESIGNING AND CONSTRUCTION OF STORAGE RESERVOIRS.** By Arthur Jacob. Science Series, No. 6. 50 cents. D. Van Nostrand, 23 Murray and 27 Warren streets, New York.

**STATISTICS OF THE WORLD, containing the Area, Population, Debt, Revenue, Expenditure, etc., of All Countries.** By Professor Alexander J. Schem. Issued Semi-Annually. Price 50 cents. New York: G. J. Moulton, 103 Fulton street.

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**THE PUBLIC LEDGER ALMANAC FOR 1874.** Philadelphia: G. W. Childs, Ledger Building.

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**Inventions Patented in England by Americans.**

(Compiled from the Commissioners of Patents' Journal.)  
From December 9, 1873, to January 1, 1874 inclusive.  
ARTIFICIAL BUTTER, ETC.—L. D. Roubush, New York city.  
BALE TIE.—W. A. Jordan, New Orleans, La.  
BLOWING MACHINE.—T. H. Asbury, Philadelphia, Pa.  
CHUCK.—J. H. Westcott, Oneida, N. Y.  
CLASP.—S. K. Ellis, Waltham, Mass.  
COUPLING CARS, ETC.—G. A. Everett (of New York city), London, England.  
CUTTING TOOL, ETC.—J. Lindsay, New York city.  
DRAWING WOOL, ETC.—J. & J. Dobson, Philadelphia, Pa.  
DREDGING MACHINERY.—J. A. Ball, Oakland, Cal.  
EXTENSION LADDER.—G. Skinner (of New York city), London, England.  
GAS STOVE.—D. Haskins, Boston, Mass.  
GENERATING STEAM.—B. Douglass, Montrose, N. J.  
HINGE.—F. W. Nichols, Lynn, Mass.  
HORSE SHOE MACHINE.—E. S. Wheeler, New Haven, Conn.  
HORSE SHOE MACHINE.—Rhode Island Horse Shoe Co., R. I.  
JOINING LEATHER, ETC.—C. Keniston, Somerville, Mass.  
LOOM, ETC.—J. Gates, Lowell, Mass.  
LUBRICATOR.—I. Dreyfus, New York city.  
MAKING ICE.—C. P. N. Weatherley (of New York city), London, England.  
MAKING STEEL.—C. M. Nes, York, Pa.  
PRINTING PRESS, ETC.—W. J. Swain *et al.*, Philadelphia, Pa.  
ROLLING IRON.—Rhode Island Horse Shoe Co., R. I.  
SEPARATING TIN.—P. de P. Ricketts, New York city.  
SEWING MACHINE, ETC.—C. A. Wade, Philadelphia, Pa.  
USING STEAM, GAS, ETC.—C. Heaton, New York City, *et al.*  
VENTILATOR.—W. J. de B. Ingram, Bergen, N. J.  
WATERPROOFING FABRICS.—H. A. Clark, Boston, Mass.  
WORKING IN STONE.—H. Cottrell, Newark, N. J.

# Value of Patents, AND HOW TO OBTAIN THEM. Practical Hints to Inventors.

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business, and have all the work done over again. The best plan is to solicit proper advice at the beginning. If the parties consulted are honorable men the inventor may safely confide his ideas to them, they will advise whether their improvement is probably patentable, and will give him all the directions needful to protect his rights.

**How Can I Best Secure my Invention?**

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Construct a neat model, not over a foot in any dimension—smaller if possible—and send by express, prepaid, addressed to MUNN & Co., 37 Park Row, New York, together with a description of its operation and merits. On receipt thereof, they will examine the invention carefully, and advise you as to its patentability, free of charge. Or, if you have not time, or the means at hand, to construct a model, make as good a pen and ink sketch of the improvement as possible and send by mail. An answer as to the prospect of a patent will be received, usually, by return of mail. It is sometimes best to have a search made at the Patent Office. Such a measure often saves the cost of an application for a patent.

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**To Make an Application for a Patent.**

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