pulping, and pressing department of a 500-acre beet root sugar manufactury are as follows:

1. One horizontal 20-H. P. steam engine for driving the root washer, pulping drum, the hydraulic presses, and two pumps capable of delivering 37,000 gallons per hour. Cost, $1,700.

2. The beet root washer, 12 feet long, with iron drum and cistern. Cost, $350.

3. One pulping machine, with double drum, and capable of working 150,000 lbs. of beets in twenty-four hours. Cost, $660.

4. One spare double drum for the above. Cost, $130.

5. Spare saws for same. Cost, $40.

6. One sack filler, or "*palctteur*." Cost, $74.

7. One Lecointe press. Cost, $320.

8. Six hydraulic presses, with eight guides to each, two movable counterweights, twelve-inch pistons, and 40 inches stroke. Cost, $4,000.

9. One iron frame, with two hydraulic pumps, these alternate, with differential pistons, eccentric transmission of motion, and patent compensator, fitted to work the eight hydraulic presses. Cost, $1,200.

10. Six "returns," stops, and wrought-iron pipes for the hydraulic presses. Cost, $200.

11. Two sheet-iron gutters, and three large funnels or "chapels" for collecting all of the expressed juice. Cost, $150.

12. One "*monte-jus*" of a capacity of seventy-five cubic feet, with all its accessories, and a connecting reservoir of same capacity. Cost, $210.

13. Pulleys, belts, etc., for transmissions of motions to root washer, pulper, hydraulic pumps, etc. Cost, $520.

Total cost of washing, pulping, and pressing department of a factory which will work 150,000 lbs. of beet per twenty-four hours, will be $7,274.

VELOCIPEDE NOTES.

The velocipede has got into the highest court in England. A lower court has decided that it is unlawful for toll-gate authorities to charge toll for a velocipede; but the company against whom this decision was rendered, mean to carry the case up to the chief tribunal. The charge of toll was made under the clause empowering to charge for "a foot passenger driving a wheelbarrow."

It has also got into the magazines, into the theatres, and into the hearts of the sport-loving community so deep that it will take it a long time to get out. It has a language of its own, and a literature of its own, which is not confined to prose, but includes also rhyme if not poetry. Grave periodicals write dissertations upon it, humorous ones caricature it, the daily press tells very extraordinary yarns about it. For our part we simply endeavor to keep our readers posted upon its progress.

In Boston the municipal authorities have recently granted fourteen licenses for velocipede rinks.

Two new styles of velocipede, which conflict with no existing pattern, are reported from Worcester, Mass. One of these is to run entirely by friction and the other with common foot paddles.

Mr. Calvin Witty has just received the original velocipede —the one built by Pierre Lallement before he had received his patent. It is a good velocipede in every way and has a much better saddle than is manufactured to-day. Lallement was a machinist, and this velocipede proves that he was a good workman. From appearances Lallement has ridden it a good deal. As a curiosity it is very valuable to Mr. Witty.

A new style of velocipede was exhibited at Witty's school on Tuesday night. It is a wire velocipede, the wheels being formed of wire entirely. Small thin wire takes the place of spokes, and it is made strong on the same principle that makes a suspension bridge strong—each wire strengthening the others. It is exceedingly light, and there is a slight vibratory motion which is very pleasant; doubtless it would do exceedingly well on the street. When it was run last night upon the new spring floor which Mr. Witty has laid down, the spring was very great. It attracted much attention on the night spoken of.

The unreasonableness of prohibiting velocipedes from the public highways is thus satirically spoken of by the *New York Herald*:

"Man's own feet or crutches and a wheeled vehicle with a horse in front—these, it seems, must be the Alpha and Omega of locomotion in the city streets. A wheeled vehicle without a horse is a thing so preposterous to the eyes of aldermen that it must be forbidden altogether. Such is the experience of several cities, and our city promises to follow suit. Now, though the horse is favored by popular prejudice, a man may move his wagon with a mule, or a jackass, or a goat, or a dog; but he is not permitted to move it without one of these in front, or he will be fined twenty-five dollars. We recommend the sports to tie their tan terriers in front of the machine with a piece of pink ribbon, and go it on the same dodge adopted for the dummies, where an old blind horse trots in front of the locomotive within city limits. Although the aldermanic abdomen is a guarantee against any experiment of the Fathers on the velocipede, cannot some juvenile of aldermanic lineage convince the old fellows how ridiculous they are in endeavoring to prohibit what only needs regulation?"

WHEN the machine, or its parts, is beyond the operator's powers, the machine has usurped the place of its governor or manager. Every person running a machine should understand it, sufficiently at least to retain his natural superiority. If not, the machine is his master, which is reversing the order of nature.

ARE UTENSILS OF COPPER INJURIOUS FOR CULINARY PURPOSES?

Translated from the German "Aus der Nature."

Utensils of copper are held in high esteem by most ladies, because they form when well scoured, a kind of ornament to the kitchen. They do not however, take into consideration that food may be poisoned when cooked therein. It has been stated, though scarcely to be believed, that articles of food containing acids may be prepared in copper vessels without any injurious effect, if they be not allowed to remain in such vessels any length of time. This opinion has even been sustained by men of science, who maintain that the action of the acid upon the metal is prevented, because the vapors which are constantly generated in cooking prevent oxidation taking place. Recent investigations, however, have proved beyond doubt that this supposition is incorrect. Pleischl, in Vienna, showed that cabbage, fresh and dried plums, etc., absorb a quantity of copper sufficient to cause injurious effects within one hour's boiling in pans made of this metal. Meat also, because of the acids, it contains, is acted upon by copper. This is also the case with water when it contains chloride of sodium or salt, which is rarely ever lacking in spring water. Copper is also readily dissolved by oil. In placing a drop of oil upon polished copper, it will be seen that the oil soon assumes a dark bluish green color, which change is due to the fact that the oxide of copper formed, has combined with the fatty acids contained in the oil. The power of solubility is, of course, considerably increased when the oil or lard has previously been subjected to the action of heat.

Quite recently Dr. Wald asserted in a German periodical that copper is not poisonous and the objection to utensils of copper therefore unfounded. He asserts that no case of poisoning by salts of copper is recorded! The doctor certainly must be unacquainted with Orfila's toxicology or similar works.

Copper, as long as it remains metallic, is indeed not always injurious to the system. Instances are known where individuals have swallowed copper coins and discharged them again without the least injury, and Drouard has administered nearly one ounce of finely pulverized metallic copper to a dozen dogs, without observing any case of poisoning. Still, Orfila himself relates that an individual in swallowing copper powder was seriously affected.

It is also well known that braziers and electrotypers are often subject to a peculiar disease called copper colic. Its symptoms are fever with violent pains in the bowels. The sickness itself consists in inflammation of the stomach and the intestines, and is produced by the introduction of finely divided copper into the system. The late Professor Runge also mentions that a dealer of the oxide of copper, in Berlin, was unable to obtain laborers for collecting and packing it, because of the illness it occasioned among them.

Orfila relates several cases of poisoning which were produced by salts of copper. Five children, of from three to eleven years of age, were taken ill after eating bonbons which had been colored green by the vessel in which they were prepared. Drouard suffered three days from colic and diarrhea after having eaten a "ragout" prepared from the wine of a cask of which the cock was found to be oxidized.

Orfila says that a dog died in less than three hours from the effects of a dose of verdigris not exceeding fifteen grains. A small one died in sixty-five minutes from a dose of sulphate of copper of forty grains. Death, also, took place invariably when the sulphate of copper was applied upon wounds.

Renne in his treatise on judicial chemistry also relates a number of cases of poisoning by copper.

We admit that cooking utensils of copper very rarely cause sudden death; but are they, nevertheless, to be called harmless?

If the copper taken up by food acts but slowly, it does not act with less certainty, no matter whether this may at the time be positively proved or not. That utensils of copper may be dangerous in certain cases seems to be known to cooks, for we have never found any who used copper pans for frying omelets.

The distinguished French chemist Chevallier who treats upon this question in a memoir recently presented to the French Academy of Sciences has been led to somewhat different conclusions from those of Dr. Wald. After having quoted numerous instances of poisoning caused by food prepared in copper pans, concludes as follows: "All the facts which have come to my knowledge, prove positively that the use of utensils of copper for culinary purposes is dangerous, and that it is unwise to say that copper and its salts are not injurious, or that cooking utensils of this metal are harmless." Chevallier suggests that copper ware employed in the kitchen should always be coated with tin. In Paris, and the department *de la Seine*, this is already the case, but he demands that the respective decree be made a law in all the departments, or that the mayors of the cities direct attention to the great importance of tinned copper. We find that in Sweden, though copper is one of the principal products of that country, the use of copper vessels is prohibited for the preparation as well as for the preservation of food. In 1774, the *chef de police*, in Paris, forbade the dealers of milk to carry the same in vessels of this metal, and even before that date a large establishment was founded in that city for the making of iron utensils for culinary purposes. At first, however, they met with little success, but gradually they came more into use. In 1790 copper vessels were made, the inner surface of which were silverplated. It was also, recently proposed to silverplate iron.

The silverplating of copper, aside from the expense, cannot be recommended. The silver, because of its soft nature, is easily detached, leaving the copper surface exposed, and wherever this is the case the copper is more readily attacked than otherwise. The reason for this is found in the electro-chemical action which occurs. Cast iron vessels with enameled surfaces inside are better for culinary purposes. The enamel, however, should be free from lead.

The presence of copper in liquid food is readily detected by holding in it a knife blade for about ten minutes. If copper is present, it is thrown down upon the iron and can easily be recognized by its red color.

We find it stated in various cook-books that in order to restore the green color of pickled cucumbers, a copper coin should be dissolved in the vinegar. The evil effect of such a process must be apparent to all.

Chrome Green.

Oxides of chrome are prepared either in the dry or wet way; obtained thus, they vary from greenish grey to a more or less deep greenish yellow. They generally have neither brilliancy nor freshness. It is possible, however, to produce green oxides of chrome which are not devoid of beauty. One of the most intelligent chemists of the commercial world, M. Casthelaz, has, conjointly with M. Leune, prepared a chrome green, which is justly styled imperial green. This coloring matter of a superior brilliancy is obtained exclusively by the wet way. The process consists in slowly precipitating chrome salts by treating them with hydrated metallic oxides, insoluble, or but slightly soluble, in water, or by hydrated metallic carbonates, or hydrated metallic sulphides, or, again, by other salts of weak acids, which easily leave their bases; the action is only produced progressively, and the oxide of chromium is precipitated in the hydrated form; the color of the compound is magnificent, of a deep emeral green. For this preparation, it is convenient to adopt economical reagents, such as gelatinous alumina, oxide of zinc, carbonate of zinc, sulphide of zinc, etc., whose price is reasonable. The same result may be obtained by treating a chrome salt with the non-alkaline metals, which have a sufficient affinity to unite with acid of the chrome salt and precipitate the oxide. Iron and zinc will be more particularly used, as they are cheaper. It is necessary to select from among the metals, with their oxides and salts, those which, with the acid of the chrome salt, give soluble salts, as they should be removed by washing. If recourse is had to reagents forming, with the acid of the chrome salt, insoluble salts, it is only in order to modify the color and composition of the chrome precipitates and of the green color thus formed. As to the magnificent imperial green color obtained by M. Casthelaz, it possesses properties which will enable manufacturers ultimately to renounce the justly condemned and dangerous copper and arsenic greens. The use of the imperial green removes all danger from insalubrity; it is an impalpable substance, of perfect tenuity. It is believed that this property will cause the new green to be adopted for printing on stuffs, and for other purposes. The oxides of chrome known up to the present time, and generally obtained in the dry way, cannot, by pulverization, attain to the degree of fineness of the imperial green. It is expected that this substance will have great success in oil painting, colored papers, colors, and artificial flowers, printing, lithography, perfumery, and soap manufacture, as well as in the making of glass and in the ceramic arts.—*Moniteur Scientifique.*

NEW PUBLICATIONS.

APPLETON'S JOURNAL OF LITERATURE, SCIENCE, AND ART.

The first number of this new candidate for popular favor has made its appearance, and its mechanical execution is well calculated to invite the reader to "a feast of fat things," but we confess to a disappointment in the literary branch. Victor Hugo's new novel opens in a somewhat disjointed style, but the fame of the man assures us that the tale will progress with an increased power and interest; the opening chapters being the rougher work, which always precedes the more symmetrical structure. The general contents lack somewhat of that spicy flavor which necessarily must enter into all journals of a popular character; but the editorial department may improve with a little more experience.

THE ARCHITECTURAL REVIEW. Edited by Samuel Sloan, Architect. Published by Claxton, Remsen & Haffelfinger, Philadelphia.

The number for April contains a good article upon "Architecture in America, "The Cathedrals of England," beside several practical articles and illustrations of value to all who take an interest in the development of architectural taste in our country.

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 gratuitous replies to questions of a purely business or personal nature. We will publish such inquiries, however when paid for as advertisemets at $1·00 a line, under the head of "Business and Personal."

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

A. J. S., of La.—Your inquiries relative to caloric engines will be found answered in our description of the Roper improved hot air engine, to be illustrated in our next issue, No. 17 current volume.

W. H., of Pa., is running a quarter-turn belt, 60 feet long and 16 inches wide, from a 48-inch pulley at the bottom to a 52-inch pulley above. It does not run well and binders are necessary. A 12 inch belt of the same length ran well for a time but subsequently required binders. He asks if there are any cases known where quarter-twist belts of these lengths and widths have run well without binders. We know of no such cases. In our practice we never attempted to run a belt of either 16 or even 12 inches wide on a quarter turn, and if compelled to do so would have insisted on a greater distance between shafts than that in this case—less than 15 feet. Where the limit is between widths of belts and distances between points for the quarter turn we are unable to determine. The millwright usually relies much upon his own judgment.

H. B., Jr., of Canada.—If an invention has been patented abroad, that will not prevent the original inventor from patenting it here—unless the invention has not gone into public use before the date of his application in this country; but the term of his grant here, in such case, would be limited to the expiring of the term for which letters patent were first issued to him abroad for such invention. If a patent exists in a foreign country, that fact would debar the granting of a patent here to another inventor, unless he could show that he made his invention before the date of the foreign patent.

H. W. P., of Vt.—Carbolic acid will not remedy the odor arising from concrete walks, in which coal tar is an ingredient.

R. & B., of Conn.—The knitting machine to which you refer is we believe more generally used than any other.

L. F. M., of Mass.—The "Patent Claims" are now issued weekly, in pamphlet form, by the Patent Office, at $5 per annum.

S. A. H., of Conn.—Gumbridge & Co., to whom you refer, have been dealt with according to law. They were humbugs, no doubt.

H. H., of N. J.—There is no particular degree or dividing line that marks the difference between hot and cold, warm and cool. It is a mere matter of sensation.

H. C., of Pa.—We cannot admit any further discussion of the subject into our columns. The subject is stale, flat, and unprofitable.

D. T. Jr., of Pa.—We recommend you to get the "Silver Sunbeam" as the best work for you on photography.

S. F. M., of Ill.—Small pieces of brass can be melted in a sand crucible with a coal fire, but the crucible must be kept covered. You would be likely also to lose a large portion of the zinc. The best way to use up scrap brass is to melt it in with new brass, putting it in with the zinc after the copper is melted.

C. E. H., of Iowa.—The researches referred to as more recent than those of Joule, Rumford, Tyndall, etc., in the article entitled, "Waste and Economy of Fuel," are those of Auguste Langel, Victor Delacour, Hirn, Zeuner, Bede, Emile Martin, and Scholl, and other able engineers, including the author of the article in question.

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.

Velocipedes cheap.—Specifications and elaborate lithographic drawings, by the aid of which any mechanic may construct a velocipede, together with full instructions for learning to ride, sent for 25 cents. Address M. M. Roberts, Box 3481, Boston Postoffice.

Wanted — A Wilmot portable sawing machine. Address Sawyer, Box 773, New York.

Velocipedes.—Working drawings, scale 3 in. to the foot, with plans and specifications in detail, enabling anyone to construct one of the best two or three-wheeled velocipedes at less than one third usual cost. Price 50 cents. G. F. Perkins & Co., Holyoke, Mass.

For State and county rights for best portable fire extinguisher, address Postoffice Box 3,933, Boston, Mass.

I wish to make arrangements with a manufacturing establishment for the manufacture of my improved velocipede, illustrated April 3d, page 212 of this paper, I challenge all other machines for speed and ease of locomotion. Address L. H. Soule, Albany Postoffice, N. Y.

Manufacturers of brick machines and machinists' tools send circulars and price list to A. J. Shotwell, Washington, Ind.

An experienced patent-right salesman, about starting out, will sell a first-class article, not interfering with his own, on commission. Address, with full particulars, Box 311, Elwood, N. J.

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

Wanted—Parties to manufacture the spring-jaw wrench illustrated in this paper Nov. 18, 1868. Address Bradshaw & Lyon, Delphi, Ind.

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

For the best velocipede, and other small forgings, address R. A. Belden & Co., New Haven, Conn.

The new method for lighting street lamps! For illustrated circular, with letter from President Manhattan Gas Light Co., and Sup't of Lamps and Gas of the City of New York, address J. W. Bartlett, Patentee, 569 Broadway, New York.

For the latest improvement see the Inventors and Manufacturers' Gazette. The cheapest illustrated paper in the world. $1 per year. Published by Saltiel & Co., Postoffice box 448, or 37 Park Row, New York City.

For sale—The best propelling wheel for canal boats or boats of shallow or swift waters. Address H. T. Fenton, Water st., Cleveland, O.

200 bars 1-in. octagon tool steel, best quality, for sale.—The lot at 14 cents per lb. Sweet, Barnes & Co., Syracuse, N. Y.

Rare chance for agents. D. L. Smith, Waterbury, Conn.

The Tanite Emery Wheel.—For circulars of this superior wheel, address "Tanite Co.," Stroudsburgh, Pa.

Money Plenty—To patent and introduce valuable inventions for an interest in them. National Patent Exchange, Buffalo, N. Y.

One hundred horse power Corliss steam engine for sale in good order. Address W. B. Le Van, Machinist, 24th and Wood sts., Philadelphia.

The manufacture and introduction of sheet and cast metal small wares is made a specialty by J. H. White, Newark, N. J.

The Magic Comb will color gray hair a permanent black or brown. Sent by mail for $1·25. Address Wm. Patton, Treasurer Magic Comb Co., Springfield, Mass.

For coppered iron castings address J. H. White, Newark, N. J.

W. J. T.—We think the patent asbestos roofing manufactured by H. W. Johns, of this city, is the best substitute for tin or slate. It is cheap and easily applied.

Tempered steel spiral springs. John Chatillon, 91 and 93 Cliff st., New York.

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

Iron.—W. D. McGowan, iron broker, 73 Water st., Pittsburgh, Pa.

Machinists, boiler makers, tinners, and workers of sheet metals read advertisement of Parker Brothers' Power Presses.

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. $4 a year

Recent American and Foreign Patents.

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

SCROLL-SAWING MACHINES.—August M. Schilling, Chicago, Ill.—This invention has for its object to furnish an improved scroll-sawing machine, which shall be so constructed and arranged that holes may be sawn with facility and accuracy, without its being necessary to stop the saw to introduce the material to be sawn.

BROADCAST SEEDER.—Matthew Sackett, Monticello, Iowa.—This invention has for its object to furnish an improved broadcast seeder, designed especially for sowing timothy, clover, and other small seeds, and which be simple in construction and convenient in use.

CORN PLANTER.—Peter Rogers, Sharon, Ohio.—This invention has for its object to furnish an improved machine for planting corn, which shall be simple in construction, reliable and accurate in operation, and convenient in use; being so constructed and arranged that the dropping device may be readily thrown out of gear, allowing the machine to be turned or backed without dropping the corn, and which may be turned in a small space.

STOVEPIPE SHELF.—John P. Sherwood, Fort Edward, N. Y.—This invention has for its object to furnish an improved detachable and adjustable shelf for attachment to stovespipes, which shall be simple in construction, and easily attached, detached, and adjusted.

RAKING ATTACHMENT FOR REAPERS.—Charles Barns, Oskaloosa, Iowa.—This invention has for its object to furnish an improved raking attachment for reapers, which shall be so constructed and arranged as to take the grain, as it crops from the cutters, and deliver it to the binders or upon the ground, as may be desired, and which shall, at the same time, be simple in construction and effective in operation.

HORSESHOE NAIL CLINCHER.—E. E. Fisher and William H. Mack, Indianola, Ill.—This invention has for its object to furnish a simple, convenient, and effective instrument for turning down and clinching horseshoe nails, so as to obviate the necessity for the use of the rasp, hammer, and clinching iron, while doing the work neater and better.

CULTIVATOR.—John Powell, Sullivan, Ill.—This invention relates to improvements in cultivators, or gang plows, and has for its object to provide a more simple and convenient arrangement of means for vibrating the plows laterally, adjusting than to vary the distance apart, and to govern their depth of cutting.

SOLDERING APPARATUS.—Conrad Seimel, Greenpoint, N. Y.—This invention relates to a new apparatus for soldering the upper and lower edges of sheet-metal cans of cylindrical, prismatic, or other shape. It consists in providing an adjustable cover for the annular or other vessel in which the solder is kept, so that by forcing the said cover down, by means of suitable levers, the solder will be forced into the soldering pan, wherein it will rise to a suitable desired hight to surround the edge of the can to be soldered. When the levers are released, the covers will be raised by spring or weight, and will draw the solder back into the closed vessel in which it is protected from the injurious influences of the air. The soldering pan is endless, either round, square, or oblong, or of other suitable form, according to the shape of the box to be soldered.

COMBINED KNIFE AND FORK.—Arthur W. Cox, Malden, Mass.—The object of this invention is to provide a combined knife and fork, better adapted for the double use than any now made, and intended more especially for use by persons who have but one hand.

ADJUSTABLE REAMERS.—Henry James, Hudson, N. Y.—This invention relates to improvements in adjustable reamers, whereby it is designed to provide an improved arrangement of two or more cutters, upon a stock to be adjusted by screwing a nut forward and back upon the shank of the stock.

MACHINERY FOR GINNING COTTON.—B. Dobson and Wm. Slater, Bolton, England.—This invention consists, first, in applying to saw gins, which are provided with one or two sets of saws, a treadle lever, by which the feeding hopper may be agitated to clear the teeth of the saws, and to discharge the seeds and impurities, so that, when such treadles are used, the hands of the operator may remain at liberty; secondly, in applying to saw gins which are provided with one or two sets of saws, a fan, and two perforated metal cylinders, in which a partial vacuum is formed by the fan, to withdraw dust and other impurities from the ginned cotton passing over said cylinders; thirdly, in applying to, and in the aforesaid perforated cylinders, stationary dampers, by which the action of the vacuum is destroyed on those parts of the cylinder which deposits the cotton upon a feed apron, or other suitable apparatus.

SELF-LOCKING COVER FOR COAL HOLES, SCUTTLES, ETC.—Morison Hoyt, Brooklyn, N. Y., and G. Van Cleef, New York city.—This invention has for its object to furnish an improved cover for coal holes, scuttles, hatchways, etc., which shall be so constructed as to fasten itself when dropped into place without the possibility of failure, and in such a way that the cover cannot be removed from the outside.

PAINT MILLS.—John A. Berrill, Waterville, N. Y.—This invention has for its object to improve the construction of paint mills, so that the ground paint may be more conveniently collected from the mill and guided into the receiving vessel.

PORTABLE FENCE.—Joseph Richard, Columbiaville, Mich.—This invention has for its object to furnish an improved portable fence, which shall be simple in construction, strong, and durable, easily put up, taken down, or moved from place to place, and which can be easily and readily repaired when required.

HORSE COLLAR.—B. W. McClure, Wyoming, Iowa.—This invention has for its object to furnish a simple, convenient, and cheap horse collar, which shall be so constructed that it may be used without harness.

CORN SHELLER.—S. S. Cole, Henryville, Ind.—This invention has for its object to furnish an improved corn sheller, which shall be so constructed and arranged as to do its work quickly and thoroughly, while, at the same time, it may be manufactured at small expense, and thus brought within the reach of all farmers, even those of limited means.

BRICK AND MORTAR HOD.—E. B. Black, Joseph Hinkle, Jr., and T. S. White, Columbia, Pa.—This invention has for its object to furnish an improved hod for carrying brick and mortar, which shall be stronger, more durable, less expensive, and equally as light as, or lighter than the ordinary wooden hod.

ATTACHMENT FOR ADJUSTING CORDS FOR HANGING PICTURES, ETC.—R. d'Heureuse, New York city.—This invention has for its object to furnish an improved attachment for cords for hanging pictures, glasses, and for other purposes, by means of which the cords may be easily and quickly taken up and let out, for adjusting the hanging of the suspended object, without forming knots in the cords or untying knots previously formed.

FOUNDERY FLASKS FOR SUGAR KETTLES.—George Walworth, Peekskill, N. Y.—This invention relates to a new and useful improvement in flasks for making certain kinds of castings, but which has more particular reference to the molding and casting of sugar kettles.

COMBINED FOOT-STOOL AND FOOT-WARMER.—Jacques Jacquet, Newark, N. J.—The object of this invention is to produce an apparatus for travelers and others, which shall at once serve as a convenient foot-stool, and also as a foot-warmer in winter.

BOILER SCRAPER.—Monroe Morse and Charles H. Morse, Franklin, Mass.—This invention relates to a new self-adjusting boiler scraper, which is composed of a bent plate having straight sides, so that all its edges will form cutting edges within the tube to be cleaned. Thereby quicker operation is obtained with simpler apparatus than with the devices heretofore used.

HOP HOUSE.—William Loofbourow, Fayette, Wis.—This invention relates to a new building for drying and storing hops; it being so arranged that the hops therein can be easily handled and conveniently conveyed in the building from the cooling to the drying, and thence to the storing room.

WHIPS.—Edgar Easton, Ashland, Ill.—This invention relates to improvements in the construction of driver's whips, having for its object to provide an improved means of securing the lashes to the handles or stalks. It consists in forming a knob on the end of the stalk and braiding the lash thereon in a manner to form a swivel connection.

AUTOMATIC RAKER.—C. Lidren, La Fayette, Ind.—This invention relates to a new and useful improvement in the method of operating automatic rakers for reaping or harvesting machines, whereby the mechanism for operating such rakes is very much simplified.

DEVICE FOR PRACTICING THE HANDLING OF VIOLINS AND BOWS.—Stephen Upson, New York city.—This invention has for its object to teach beginners the manner of handling the bows of violins and equivalent instruments, and the mode of using the fingers and practicing the shifts on the fingerboard of the instrument without producing any noise, and without exposing valuable instruments to the risk of being spoiled by the practitioners.

SKATE.—Moses Kinsey, Newark, N. J.—This invention relates to a new adjustable skate, which can be applied to larger or smaller feet, and conveniently attached and taken off. The invention consists, chiefly, in the application of two plates, which are pivoted to the front of the skate, and which extend to the rear of the same, they being adjustable at any angle to each other by means of a screw. These plates carry the front and heel fastening clamps, which are moreover laterally adjustable on them. The invention also consists in the use of adjustable wedge-shaped heel clamps, which are adapted to firmly secure heels of all sizes and shapes to the skate.

COMBINED SPINNING WHEEL AND CHURN.—Morgan A. McAfee, Talbotton, Ga.—The object of this invention is to provide an arrangement whereby a common spinning wheel may be economically and conveniently arranged for employment as a propelling medium for a churn; also to provide certain improvements in churns.

CAR COUPLING.—I. L. Vansant, Glasgow, Del.—The object of this invention is to provide a simple, cheap, and effective automatic car coupling, constructed so as to avoid the use of springs of any kind.

WATER ELEVATOR.—Charles F. Woodruff, Newbern, Tenn.—This invention is an improvement upon the devices patented by the same inventor February 4th and September 15th, 1868, and consists in a combination in one machine of the main features covered by said two patents, thereby producing a more simple and permanent, and less expensive water elevator than either of the old ones.

BREECH-LOADING FIREARM.—Wm. Golcher, St. Paul, Minn.—In this invention, by moving a single lever, the breech of the barrel is thrown up, the gun cocked and held in that position, and the old cartridge shell retracted; by returning the lever to its original position, the barrel is brought down to its proper position for firing, aad the gun is left cocked and instantly discharged. The whole apparatus is exceedingly simple, cheap, and not liable to get out of order, and its use will enable the gun to be fired much more rapidly and with less labor than heretofore.

Official List of Patents.

Issued by the United States Patent Office.

FOR THE WEEK ENDING MARCH 30, 1869.

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88,261.—REVERSIBLE KNOB LATCH.—Alonzo Aston (assignor to Russell and Erwin Manufacturing Company), New Britain, Conn.

88,262.—SCREW MACHINE.—E. A. Bagley, Worcester, Mass.

88,263.—MECHANISM FOR CONNECTING HORSES TO VEHICLES.—Daniel Belcher, Easton, assignor to himself and Alvin Colburn, Lynn, Mass.

88,264.—EDGE PLANE.—Charles P. Bigelow, Clinton, Mass.

88,265.—MUCILAGE BRUSH.—Douglas Bly, late of Macon, Ga.

88,266.—WASHING MACHINE. — Jacob Brinkerhoff, Auburn N. Y.

88,267.—MACHINE FOR FITTING FELLOES TO WHEELS.—Frederick H. Brinkkotter, Callahan's Ranch, Cal.

88,268.—BOBBIN FOR SPINNING MACHINE.—Wm. M. Brisben Philadelphia, Pa.

88,269.—LAST.—Thomas Bullivant, Newark, N. J.

88,270.—HAY SPREADER.—Hiram M. Burdick, Ilion, N. Y.

88,271.—"TINKERS' POT."—Gustav Burkhardt, Homer, Ill.

88,272.—CISTERN TOP.—T. M. Bush, Hastings, Mich.

88,273.—FASTENING FOR BREAST PINS.—Calvin G. Cahoone. and Bela E. Brown, Providence, R. I. Antedated March 15, 1869.

88,274.—CAR FOR BRICK DRYERS.—Cyrus Chambers, Jr., Philadelphia, Pa.

88,275.—GARDEN CULTIVATOR.—James F. Chapman, Newton, Iowa.

88,276.—WELTED SEAM-FINISHING OR REDUCING MACHINE.—John H. Cole, North Bridgewater, Mass.

88,277.—DUMPING WAGON.—John Craig, San Francisco, Cal.

88,278.—STEAM ENGINE.—Archibald C. Crary, Utica, N. Y.

88,279.—CLAMP BAR FOR HOLDING THE CUTTERS OF MOWING MACHINES WHILE BEING GROUND.—Munson C. Cronk, Auburn, N. Y. Antedated March 19, 1869.

88,280.—GANG PLOW.—Artemas Davison, San Leandro, Cal. Antedated March 20, 1869.

88,281.—IRONING TABLE.—Henry T. De Montigny, West Troy, N. Y.

88,282.—SEWING MACHINE.—Charles F. Dunbar, Erie, Pa.

88,283.—CHANNELING TOOL. — George D. Edmands, Saugus, Mass.

88,284.—RAILWAY TRACK.—Marmont B. Edson, New York city. Antedated March, 18, 1869.

88,285.—APPLICATION OF AN ELECTRICAL CURRENT TO STEAM BOILERS.—Moses G. Farmer, Salem. Mass.

88,286.—VELOCIPEDE.—Alonza Farrar, Boston, Mass.

88,287.—VAPOR BURNER.—Louis Fischer, Brooklyn, N. Y.

88,288.—STEAM GENERATOR. — Addison C. Fletcher, New York city,

88,289.—CHURN.—John Geiger, Peoria county, Ill.

88,290.—PNEUMATIC TOOTH MALLET.—George F. Green, Kalamazoo, Mich.

88,291.—MANUFACTURE OF COLORS AND PIGMENTS.—Eberhard Harrsch, New York city.

88,292.—WATER WHEEL.—Orrin L. Hart, Millville, Wis.

88,293.—WAGON BRAKE.—D. Healey, Dansville, N. Y.

88,294.—METALLIC STUDDING FOR FIRE-PROOF WALLS.—Isaac V. Holmes, New York city.

88,295.—POTATO DIGGER.—John R. Hopper, Rochester, N. Y.

88,296.—FRUIT JAR.—Daniel Hughes, Henry E. Shaffer and William S. Thompson (assignors to Henry E. Shaffer and William S. Thompson), Rochester, N. Y.

88,297.—CHAIR.—George Hunzinger, New York City.

88,298.—DEVICE FOR SECURING BED CLOTHES.—George Inwood, San Francisco, Cal.

88,299.—PROCESS AND APPARATUS FOR MAKING IRON AND STEEL.—Jacob Jameson, Philadelphia, Pa.

88,300.—FLEA POWDER.—Charles E. Jaycox, San Francisco. Cal.

88,301.—PORTABLE FIELD HARROW.—Jacob D. Johnson, Tylersville, Pa.

88,302.—RAILWAY SAFETY SWITCH.—Richard M. Johnson and Ezra Stiles, Bridgeport, Conn.