

Eunice B. Hussey, Administratrix of Obed Hussey (deceased), late of Baltimore, Md., for an Improvement in Reaping Machines. Patent dated August 7, 1847. Reissue 917, dated February 28, 1860:

I claim the combination of the finger beam (without a platform), the short, open slot fingers having small projections below the cutter—the scooped cutter—and the guides for the cutter; these parts being constructed and combined substantially as described; the cutter vibrating in a straight line, each scoop having an edge sliding in close proximity to an angular corner of the finger, and forming there with a nipping angle, substantially as described.

Henry Jenkins, of Brooklyn, N. Y., formerly of Pottsville, Pa., for an Improvement in Machinery for Weaving Wire Grating. Patented March 6, 1847:

I claim manufacturing screens or other articles from metallic wires or bars that are bent or crinkled at the point of intersection previously to being laid or woven up, whereby I am enabled to form meshes of any desired size or shape by such intersecting bars or wires, so that they shall be rigid and durable, as set forth, and this I claim irrespective of the mechanism for bending or crinkling said wires, or interweaving them to form the requisite meshes.

DESIGNS

- 23.—N. S. Vedder, of Troy, N. Y., for a Design for a Cook Stoves.
24.—N. S. Vedder and E. Ripley (assignors to N. S. Vedder), of Troy, N. Y., for a Design for a Stove.



F. C., of Mass.—You state that, in order to increase the speed of your cider mill, you reduced the size of the small pulley one-half, but now find that it takes double the power to drive it, and you wish to know the reason why and how to make the pulleys so as to remedy the evil. Of course, since you have doubled the speed of your mill, the power required to drive it must be proportional, because you have twice the amount of work to do.

L. R., of N. Y.—There is no other mode of blueing articles of iron and steel known to us than by submitting them, when polished, to heat on an iron plate on the top of a furnace. They will pass through various shades of color, according to the temperature to which they are raised; whenever they attain to the blue shade, take them off and cool instantly. They must be exposed freely to the air while being heated, or you will fail to obtain the desired color.

A. J. W., of Mass.—To your question, "What is the best bait for foxes?" we are not able to reply positively. We know that the body of a rabbit or of a pullet is sometimes used. We should suppose that tying a live chicken to a low roost, and setting two or three traps just out of its reach, would be an excellent plan. Wolves are caught at the West by setting a trap in the ashes where a pile of wood has been burned, and then scattering pieces of meat about among the ashes.

R. R. H., of N. Y.—The bronze medals which we have examined are not coated with an artificial bronze varnish. By boiling tarnished bronze medals for a few seconds in dilute sulphuric acid, then washing them well in hot water, they will become bright; they should then be dried, and if you desire to prevent them from oxidizing, give them a thin coat of white varnish.

A. M. B., of N. Y.—A wagon will run easier when its wheels are placed on small iron axles than if placed on large wooden ones. The cheapest and easiest way to extinguish fire in a brick kiln is to shut it up as tight as possible. A little steam allowed to flow through the flues will tend to extinguish the fire, but will injure the quality of the brick.

J. B. J., of C. E.—Articles of iron are now case-hardened with a composition of powdered prussiate of potash and flour or meal in equal parts, made into a paste with water, and applied first to the surface of the article, then allowed to dry. The article is now raised to a low red heat in a clear fire, and then plunged into cold water. The prussiate of potash is the main agent; the flour is simply a vehicle for its application.

H. E. T., of Wis.—Your suggestion to give the hole through Hewett's projectile a spiral twist is a very natural one, but we believe that all attempts to rotate missiles by the resistance of the air must be failures. The rotation must be given before the shot leaves the gun, and then it will continue without any further assistance to the end of its flight.

J. H., of N. Y.—The Buhr-stone, of which millstones are made, is a natural deposit of cellular quartz, formerly supposed to be found in considerable quantity only in the mineral basin of Paris and the adjoining districts. The best quarry is at La Ferté-sous-Jouarre. The stones are quarried and broken into rectangular blocks, called "panes," which are made up into millstones and bound together with iron hoops. About eight years ago we received some excellent samples of buhr-stone from a quarry just opened in Georgia, which was said to be of inexhaustible extent. We know of no way to wash bolting cloths to prevent the ravages of insects.

T. L. B., of Ind.—In the Wesson rifle, which has never been surpassed for length of range and accuracy of firing, the ball, or rather cone, is swedged through a false muzzle which is removed before the gun is discharged. This swedging alters the shape of the missile, causing it to fill the grooves of the rifle, and preventing all windage. But we have never heard any advantage claimed for merely compressing the lead.

G. S., of Ill.—An overshot wheel 8 feet in diameter, with 225 lbs. of water on the loaded side, running 6 revolutions per minute, would discharge 1,350 lbs. per minute. This, falling 8 feet, would be equal to 10,000 lbs. falling 1 foot; and, as a horse-power is measured by 33,000 lbs. falling 1 foot per minute, your stream is just about one-third of one horse-power. An allowance of 40 per cent for friction, leakage, inertia of the water, &c., leaves about one-fifth of a horse-power for all that you could possibly utilize.

J. S., of Ohio.—An electric engine can be made to work on your principle.

J. P., of Cal.—Your ingenious lightning rod insulator is received. We shall not have it engraved.

R. N., of Ga.—All the fire companies in this city are under the command of the Chief Engineer and his Assistants, whose orders are supreme at fires. The first man at the engine house is entitled to hold the pipe at a fire; this is the custom, but fire companies can make such rules as they please about their minor duties. A complete revolution is going on in all our cities, in substituting steam for hand engines; and with this change a new system of firemen's tactics is also being introduced. Frame buildings are never blown up with powder to stop the ravages of a fire; they are usually torn down with hooks and levers. Excepting upon one occasion, we never saw a brick building blown up to arrest a fire.

C. H., of N. Y.—Several plans have been suggested for causing projectiles from cannon to rotate by the resistance of the air against wings on the outside, and among them a screw on the point of the projectile. It seems to us that Mr. Stetson's objection to these is perfectly sound; the rotary motion must be given to the missile before it leaves the gun. It seems to us, also, that there is a great deal of force in Mr. Stetson's remark, that the rifling of cannon has altogether too short a twist. If the velocity of the bolt is 1,600 feet per second, and it turns round once in 100 feet, it will rotate at the rate of 960 revolutions per minute; and this, we should suppose, would be sufficient. The larger the bolt, the smaller the number of revolutions necessary per minute.

E. F. F., of Mass.—In the nature of things, any substance that will prevent your blacking from drying will prevent it from taking a polish. You must keep it tightly covered.

C. A. S., of Ill.—The best varnish for covering magnets is made with gum shellac dissolved in alcohol. The best for covering iron implements is copal, made with linseed oil. Smee's "Electro-metallurgy," published by J. Wiley, Walker-street, this city, may perhaps answer your purpose. If you make your steel magnets about 8 inches long, 3/4 wide and about 1/2 of an inch in thickness, we believe they will answer for an experimental electro-magnetic machine for producing the electric light.

H. B. N., of N. Y.—All the galvanized iron which we have examined does not seem to withstand the action of salt water or a saline atmosphere but for a short period. Alcohol may be manufactured from corn cobs, but the quantity obtained is small in proportion to their bulk. The quantity of alcohol obtained from corn and malt is exactly in proportion to the sugar contained in them. To obtain alcohol from corn cobs, they must be mashed and fermented exactly like the corn that is used in distillation.

E. B. C., of Ohio.—Nitric, sulphuric and hydrochloric acids will dissolve the solid substances in the human system; but they will effect the dissolution of the system itself at the same time.

J. B. Z., of N. Y.—We have had enough of "hair snakes," unless some one can give us their natural history from careful observation.

B. W. K., of Wis.—The principle of the gyroscope has been repeatedly explained. All the motions result from inertia, or rather from a combination of inertia and gravitation. You will find the general principle very clearly presented on page 193, Vol. III. (new series), of the SCIENTIFIC AMERICAN.

B. F. H., of Mo.—If you want a capitalist to take hold of your steam plow with you, apply to the hardest and sharpest money-maker in your neighborhood. If there is any real virtue in it, that is the sort of man to carry it through; and if there is none, the sooner you abandon it the better.

Money Received

At the Scientific American Office on account of Patent Office business, for the week ending Saturday, March 9, 1861:—

- P. M., of Mich., \$25; W. A. L., of N. Y., \$25; J. C., of N. Y., \$50; E. T. H., of L. I., \$30; J. H. Van R., of N. Y., \$15; T. C., of Cal., \$35; F. W., of Mass., \$10; H. C. S., of Ohio, \$35; F. B., of N. Y., \$25; L. P., of Conn., \$25; E. J. P., of Mexico, \$40; J. L., of Mass., \$25; J. O. F., of Mass., \$30; C. L., of Cal., \$40; W. F. B., of Ill., \$30; L. S., of N. Y., \$250; J. A. R., of Pa., \$30; E. M., of N. Y., \$50; V. C., of Va., \$315; J. F. S., of Va., \$25; A. & E., of Texas, \$30; G. H. C., of N. Y., \$15; J. V., of Mich., \$30; A. T., of N. Y., \$25; J. A. De B., of N. Y., \$25; J. S. S., of N. Y., \$25; M. H., of N. Y., \$25; J. S. S., of N. Y., \$25; J. A. C., of Ohio, \$25; J. R., of Conn., \$28; W. W. H., of N. Y., \$15; C. & D., of N. J., \$20; J. P. S., of N. Y., \$30; L. & W., of N. Y., \$25; H. W. M., of Ill., \$25; J. B. S., of Conn., \$25; H. McD., of Pa., \$30; I. W., of Maine, \$40; L. C., of N. J., \$30; C. K. H., of Cal., \$25; J. G. D., of Mich., \$30; V. D., of Va., \$30; P. P., of N. Y., \$43; G. S. C., of Ill., \$25; J. C., of Canada, \$30; J. S. G., of Maine, \$30; N. R. M., of N. Y., \$30; W. W., of Pa., \$55; B. & D., of N. J., \$15; L. & W., of N. Y., \$475; C. H. A., of Conn., \$15; E. T. S., of Ohio, \$23; G. G., of N. Y., \$25; W. J. P., of N. Y., \$25; C. F., of Mich., \$25; A. H. B., of N. Y., \$25; H. C. A., of Ill., \$25; E. T. of N. Y., \$45; C. T. P., of N. Y., \$40; J. V. B., of N. J., \$30; J. R. M., of Texas, \$35; W. K., of N. Y., \$40; G. C. B., of Conn., \$30; E. F. F., of Tenn., \$43; C. T. B., of Mass., \$25; A. S., of N. Y., \$30; W. H., Jr., of Mass., \$35; C. C. H., of N. Y., \$30; S. M. D., of Mass., \$25; J. M. C., of Mass., \$20; J. H., of Ohio, \$25; J. McC. & Bros., of N. Y., \$25; C. H., of N. H., \$30; W. & L., of N. Y., \$15; H. T. C., of Conn., \$15; L. & P., of Pa., \$20; R. McC., of N. Y., \$15; J. P., Jr., of N. H., \$15; C. T. C., of N. Y., \$10; E. R. W., of Maine, \$25; J. & R., of N. Y., \$25; J. L., of N. J., \$28.

Specifications, drawings and models belonging to parties with the following initials have been forwarded to the Patent Office during the week ending March 9, 1861:—

[The patents on these cases, when issued, will be granted for seven years under the new Patent Law.]

- J. R., of Conn.; J. T., of N. Y.; G. G., of N. Y.; J. R., of N. Y.; J. B. & J., of Iowa; J. O. W., of N. Y.; J. R. R., of Mass. (2 cases); J. S. S., of N. Y.; A. M., of Maine; J. McC. & Bros., of N. Y.; C. F. C., of N. Y.; E. J. P., of Mexico; L. & W., of N. Y.; E. T., of N. Y.; S. M. D., of Mass.; J. H., of Ohio; J. A. De B., of N. Y.; H. W. M., of Ill.; J. L., of N. J.; A. S., of N. Y.; J. B. S., of Conn.; W. J. P., of N. Y.; F. W. T., of Mass.; L. P., of Conn.; G. S. C., of Ill.; E. R. W., of Maine; W. K., of N. Y.; E. T. S., of Ohio; C. T. P., of N. Y.; J. J. H., of Ky.; L. L. K., of Mass.; L. S., of Vt.; C. T. B., of Mass.; J. L., of Mass.; S. H. & H., of Mass.; F. B., of N. Y.; G. S. C., of Ill.; C. H. A., of Conn.; P. P., of N. Y.; J. V., of Mich.; G. F. J. C., of N. J.; E. T. H., of L. I.

New Books and Periodicals Received.

THE PRACTICAL DRAUGHTSMAN'S BOOK OF INDUSTRIAL DESIGN: Forming a Complete Course of Mechanical, Engineering and Architectural Drawing, Founded Upon the "Nouveau Cours Raisonné de Dessin Industriel" of M. M. Armengaud, aîné, Armengaud, jeune, and Amoroux, Civil Engineers, Paris, Containing Additional Plates and Examples of the Most Useful and Generally Employed Mechanism of the Day; by William Johnson, Assoc. Inst. C. E., Editor of "Practical Mechanics' Journal." Second edition, with the French Measures carefully converted into English. Boston: C. B. Russell, No. 12 Tremont-street.

In a previous edition of this standard work, the French measures were preserved, causing some inconvenience, but in the present publication they have all been converted into English, and the work may now be considered perfect. It has been adopted in Yale and other colleges, as the best guide for instruction in mechanical drawing.

THE ATLANTIC MONTHLY: published by Ticknor & Fields, Boston, Mass. The March number contains the last chapter but one of "The Professor's Story." The secret is whispered, and the end can be seen.

Important Hints to Our Readers.

BACK NUMBERS AND VOLUMES OF THE SCIENTIFIC AMERICAN.—Volumes I., II. and III. (bound or unbound) may be had at this office and from all periodical dealers. Price, bound, \$1.50 per volume; by mail, \$2—which includes postage. Price in sheets, \$1. Every mechanic, inventor or artisan in the United States should have a complete set of this publication for reference. Subscribers should not fail to preserve their numbers for binding.

PATENT CLAIMS.—Persons desiring the claim of any invention which has been patented within thirty years, can obtain a copy by addressing a note to this office, stating the name of the patentee and date of patent, when known, and inclosing \$1 as fee for copying. We can also furnish a sketch of any patented machine issued since 1853, to accompany the claim, on receipt of \$2. Address MUNN & CO., Patent Solicitors, No. 37 Park-row, New York.

BINDING.—We are prepared to bind volumes, in handsome covers, with illuminated sides, and to furnish covers for other binders. Price for binding, 50 cents. Price for covers, by mail, 50 cents; by express or delivered at the office, 40 cents.

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Thirty Cents per line for each and every insertion, payable in advance. To enable all to understand how to calculate the amount they must send when they wish advertisements published, we will explain that ten words average one line. Engravings will not be admitted into our advertising columns; and, as heretofore, the publishers reserve to themselves the right to reject any advertisement sent for publication.

CHANGE IN THE PATENT LAWS.

NEW ARRANGEMENTS—PATENTS GRANTED FOR SEVENTEEN YEARS.

The new Patent Laws, recently enacted by Congress, are now in full force, and promise to be of great benefit to all parties who are concerned in new inventions.

The duration of patents granted under the new act is prolonged to SEVENTEEN years, and the government fee required on filing an application for a patent is reduced from \$30 down to \$15. Other changes in the fees are also made as follows:—

Table listing patent fees: On filing each caveat \$10, On filing each application for a Patent, except for a design \$15, On issuing each original Patent \$20, On appeal to Commissioner of Patents \$20, On application for Re-issuance \$30, On application for Extension of Patent \$50, On granting the Extension \$50, On filing Disclaimer \$20, On filing application for Design, three and a half years \$10, On filing application for Design, seven years \$15, On filing application for Design, fourteen years \$30.

The law abolishes discrimination in fees required of foreigners, except in reference to such countries as discriminate against citizens of the United States—thus allowing English, French, Belgian, Austrian, Russian, Spanish, and all other foreigners except the Canadians, to enjoy all the privileges of our patent system (except in cases of designs) on the above terms.

During the last sixteen years, the business of procuring Patents for new inventions in the United States and all foreign countries has been conducted by Messrs. MUNN & CO., in connection with the publication of the SCIENTIFIC AMERICAN; and as an evidence of the confidence reposed in our Agency by the Inventors throughout the country, we would state that we have acted as agents for more than FIFTEEN THOUSAND Inventors! In fact, the publishers of this paper have become identified with the whole brotherhood of Inventors and Patentees, at home and abroad. Thousands of Inventors for whom we have taken out Patents have addressed to us most flattering testimonials for the services we have rendered them, and the wealth which has inured to the Inventors whose Patents were secured through this Office, and afterward illustrated in the SCIENTIFIC AMERICAN, would amount to many millions of dollars! We would state that we never had a more efficient corps of Draughtsmen and Specification Writers than are employed at present in our extensive Offices, and we are prepared to attend to Patent business of all kinds, in the quickest time, and on the most liberal terms.

The Examination of Inventions.

Persons having conceived an idea which they think may be patentable, are advised to make a sketch or model of their invention, and submit it to us, with a full description, for advice. The points of novelty are carefully examined, and a reply written corresponding with the facts, free of charge. Address MUNN & CO., No. 37 Park-row, New York.

Preliminary Examinations at the Patent Office.

The advice we render gratuitously upon examining an invention does not extend to a search at the Patent Office, to see if a like invention has been presented there, but is an opinion based upon what knowledge we may acquire of a similar invention from the records in our Home Office. But for a fee of \$5, accompanied with a model or drawing and description, we have a special search made at the United States Patent Office, and a report setting forth the prospects of obtaining a Patent, &c., made up and mailed to the Inventor, with a pamphlet, giving instructions for further proceedings. These preliminary examinations are made through our Branch Office, corner of F and Seventh-streets, Washington, by experienced and competent persons. Over 1,500 of these examinations were made last year through this Office, and as a measure of prudence and economy, we usually advise Inventors to have a preliminary examination made. Address MUNN & CO., No. 37 Park-row, New York.