



J. A., Jr., of Ill.—As a general rule we have very little faith in the published modes of destroying insects. Any fertilizer which induces a vigorous growth in the plant aids in enabling it to overcome the effects of insect bites, and in this way sulphate of ammonia might be useful, but it would be too costly for Illinois, where you do not cart your barn-yard manure to your fields.

D. E., of N. Y.—We know of no plan for making friction matches commercially for market without phosphorus. Thorough ventilation is the best preventive yet discovered for the terrible disease which is induced by exposure to the fumes of phosphorus.

P. D., of Pa.—You will find the comparative value of petroleum and coal for fuel fully discussed in another column. The right to a patent can be assigned before the patent is obtained. We prepare such assignments; the cost is \$3.

G. W. H., of N. Y.—Rock-oil naphtha is not adapted for making varnish, as it is a very poor solvent for gums. Coal-tar naphtha is an excellent solvent for some gums, though not for gum shellac. This would answer your purpose if you could obtain it. It has been sold somewhat below the present price of alcohol.

J. M., of Iowa.—When strata of rocks or clay slope down from hills or mountains, the water sometimes gets between the layers, which hold it from rising up in the valleys. If the strata above the seam of water are bored through, the water is forced up through the hole by the pressure of that in the upper portion of the seam. Artesian wells can be made therefore only in the vicinity of higher ground. Address Prof. Henry at the Smithsonian Institution in relation to their publications.

P. E., of N. Y.—The resistance spoken of in a falling body is that of inertia, which is in proportion to the weight. This is the principal resistance in dense bodies. The resistance of the air would be greater, as you say, in small spheres than in large ones in proportion to the weight, and would cause them to fall with less velocity.

F. G. W., of Mass.—The Giffard's injector is manufactured by Wm. Sellers & Son, of Philadelphia, and if you will write to them they will doubtless give you all the information that you want.

D. K., of R. I.—We have received your communication on "the drill and its office," but we have already published so many articles on that subject that we must decline your favor. Your ideas are good. Write again on some other subject and we shall try to give you a hearing.

A. V. S., of N. Y.—The Rubber Company to which you refer control the right to make, use, and sell and vend to others the same rights, the particular article protected by their patents; whenever the article passes into the market and is sold, the Company will have realized their legal tariff upon it, and any subsequent purchaser has a right to use it freely. The Company can collect but one tariff, and this they did at the first sale of the article.

S. C. & Co., of Ohio.—The travel of piston in feet of a steam engine is twice the stroke multiplied by the revolutions; or the length of stroke multiplied by the number of single strokes. Your 18-inch cylinder with a steam pipe only 3 inches diameter, is defective. The pipe should be five inches at least, and well covered to guard against radiation. It is more probable that the valve motion of your engine is defective, and if you will send us a diagram of it and the work the engine has to do, we can probably remedy the trouble.

E. W. S., of R. I.—You could not obtain a situation as an assistant engineer unless you had some knowledge of the business.

I. B. B., of N. Y.—A balloon rises in the air because the gas in the balloon is lighter than the air around it; the attraction of the earth draws the heavier air down under the balloon and thus pushes it up. The buoyancy of a balloon consequently depends upon the specific gravity of the gas with which it is filled. The lightest gas is hydrogen; it is $14\frac{1}{2}$ times lighter than air. About 13 cubic feet of air weigh one pound and about 188 feet of hydrogen. In round numbers 14 cubic feet of hydrogen will raise one pound in the air, and it will take 7,000 cubic feet to raise 500 pounds. As the density of the air diminishes rapidly with the altitude, the size of the balloon must be increased for any considerable ascent. A horse-power is that which will raise 33,000 pounds one foot per minute; a half-horse power would therefore raise 82½ pounds 200 feet per minute. It is possible that a steam engine might be made weighing less than 200 pounds, which could be worked up to a half-horse power.

G. J., of N. Y.—Your criticism of our views in regard to some English notions may appear to you to be just. Upon this point we will not enter into controversy. Your style of refuting our ideas is, to say the least, somewhat below the standard of genuine politeness. When, however, you seek to correct our orthography, we have only to say that you are certainly not well informed. In our frequent use of words we are quite as likely to spell them correctly, as one whose business does not necessarily teach him either good manners or good spelling. If you will take the trouble to turn to Webster's Dictionary, which is the standard here, you will find that tun, traveler, center, theater, etc., are spelled correctly by us.

S., of Pa.—The Commissioner does not return the first installment of the patent fee in case the application is rejected. When the patent is allowed, \$20 additional must be paid within six months, before the Letters can issue.

J. C. T., of Minn.—We are not aware that Paine's engine has been introduced, but you can ascertain by addressing Mr. Archibald, at the British Consul's office, in this city.

Money Received.

At the Scientific American Office, on account of Patent Office business, from Wednesday, June 22, 1864, to Wednesday, June 29, 1864:—

A. J. P., of N. Y., \$25; D. F. M., of N. Y., \$30; F. A. H., of N. Y., \$41; F. B., of Ill., \$20; G. H. S. D., of N. Y., \$48; D. A., of N. Y., \$16; G. A., of Iowa, \$20; D. H. S., of Iowa, \$20; P. & T., of Pa., \$20; J. D. B., of N. Y., \$20; W. M., of Ohio, \$18; M. A. W., of Cal., \$55; W. W. P., of Ill., \$16; F. R., of N. Y., \$25; L. O. C., of Pa., \$16; A. M. G., of N. H., \$16; D. W., of Pa., \$16; S. J. M., of Mo., \$15; H. S., of Tenn., \$31; W. J., of N. Y., \$26; R. B. M., of Ohio, \$16; P. H. R., of Ind., \$16; N. S. W., of N. Y., \$25; I. B., of N. Y., \$25; J. M. McL., of Mich., \$16; J. B. G., of Ky., \$40; H. U., of Conn., \$50; J. S. T., of N. Y., \$30; P. W., of Ill., \$25; F. G. A., of Mass., \$25; S. H. K., of Pa., \$25; J. G. L., of Ohio, \$17; A. W. H., of N. Y., \$25; C. L. G., of N. Y., \$100; W. C. M., of N. Y., \$20; C. C. C., of Iowa, \$41; J. H., of N. Y., \$22; L. H., of N. Y., \$30; P. C. R., of Mass., \$20; J. L., of N. Y., \$16; W. L. P., of N. Y., \$45; B. M. F., of N. Y., \$20; F. J. B. H., of N. Y., \$20; J. M., of Mass., \$45; G. S., of Vt., \$16; H. H., of N. Y., \$25; J. W., of Ind., \$16; W. H., of Conn., \$16; C. W. & J. P. W., of Ill., \$16; J. C. C., of Nebraska Territory, \$31; T. & J. W. W., of Ill., \$35; J. W. N., of Mass., \$44; F. C. L., of Iowa, \$25; S. & B., of Ohio, \$24; J. E. T., of Pa., \$16; P. & K., of N. J., \$16; D. & N., of Maine, \$25; C. A. B., of Cal., \$16; N. V., of N. J., \$16; C. W. & B., of Pa., \$35; C. B., of Pa., \$25; I. L., of Russia, £3; B. W., of Ill., \$25; H. C., of N. Y., \$16; R. T., of Wis., \$16; C. A. M., of Ohio, \$15; H. S., of N. Y., \$25; M. G., of N. Y., \$20; A. M. W., of Mass., \$20; T. W. C., of N. Y., \$20; W. K., of N. Y., \$16; F. S. G., of N. Y., \$16; W. A. J., of La., \$20; H. & F. J. L. B., of Ohio, \$20; T. V., of Cal., \$50; O. C. P., of N. Y., \$20; B. E. M., of Ill., \$20; H. J., of Mass., \$45; E. W., of N. H., \$16; R. B., of N. Y., \$25; E. G. W., of Minn., \$25; J. P. C., of N. Y., \$16; J. L. W., of Ohio, \$25; S. & H., of Ohio, \$26; M. H. M., of Ohio, \$31; A. & T., of Mass., \$35; H. H., of Iowa, \$25; T. L. P., of Ohio, \$25; F. G. S., of Mass., \$15; H. N., of Pa., \$20; E. M. K., of Ohio, \$25; N. S., of Mich., \$25; T. S., of N. J., \$22; F. L., of La., \$25; E. S., of Pa., \$16; E. P. B., of N. Y., \$25; F. F., of Minn., \$25; D. & B., of N. Y., \$48; J. L. B., of Pa., \$15.

Persons having remitted money to this office will please to examine the above list to see that their initials appear in it and if they have not received an acknowledgment by mail, and their initials are not to be found in this list, they will please notify us immediately, stating the amount and how it was sent, whether by mail or express.

A. J. P., of N. Y.; A. W. H., of N. Y.; K. S., of N. Y.; D. F. M., of N. Y.; F. A. H., of N. Y.; C. C. C., of Iowa; J. H., of N. Y.; H. H., of N. Y.; R. B., of N. Y.; F. K., of N. Y.; W. J., of N. Y.; T. L. P., of Ohio; S. & B., of Ohio; G. C. P., of Cal.; A. K. F., of N. Y.; O. W. & J. P. W., of Ill.; J. L. W., of Ohio; J. C. C., of Nebraska; S. & H., of Ohio; T. & J. W. W., of Ill.; F. C. L., of Iowa; H. S., of Tenn.; N. S. W., of N. Y.; D. & N., of Maine; E. M. K., of Ohio; C. B., of Mich.; A. & T., of Mo.; F. L., of La.; H. W., of Conn. (2 cases); J. S. T., of N. Y.; C. B., of Pa.; H. H., of Wis.; F. F., of Mich.; J. N. C., of Ohio; E. P. B., of N. Y.; P. W., of Ill.; B. W., of Ill.; F. G. A., of Mass.

Specifications and drawings and models belonging to parties with the following initials have been forwarded to the Patent Office, from Wednesday, June 22, 1864, to Wednesday, June 29, 1864:

TO OUR READERS.

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 enclosing \$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.

INVARIABLE RULE.—It is an established rule of this office to stop sending the paper when the time for which it was pre-paid has expired.

MODELS are required to accompany applications for Patents under the new law, the same as formerly, except on design patents, when two good drawings are all that are required to accompany the petition, specification and oath, except the Government fee.

RECEIPTS.—When money is paid at the office for subscriptions, a receipt for it will always be given; but when subscribers remit their money by mail, they may consider the arrival of the first paper a *bona-fide* acknowledgement of our reception of their funds.

Binding the "Scientific American."

It is important that all works of reference should be well bound. The SCIENTIFIC AMERICAN being the only publication in the country which records the doings of the United States Patent Office, it is preserved by a large class of its patrons, lawyers and others, for reference. Some complaints have been made that our past mode of binding in cloth is not serviceable, and a wish has been expressed that we would adopt the style of binding used on the old series, *i. e.*, heavy oarboard sides covered with marble paper, and morocco backs and corners.

Believing that the latter style of binding will better please a large portion of our readers, we commenced on the expiration of Volume VII, to bind the sheets sent to us for the purpose in heavy board sides, covered with marble paper and leather backs and corners.

The price of binding in the above style is 75 cents. We shall be unable hereafter to furnish covers to the trade, but will be happy to receive orders for binding at the publication office, No. 37 Park Row, New York.

RATES OF ADVERTISING.

TWENTY-FIVE 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 they may deem objectionable.

JUST FINISHED AND FOR SALE A 28-INCH INDEX Cutting Engine. Address JOHN C. REED, Providence, R. I. 2 2*

ARMY CLOTHING AND EQUIPAGE OFFICE,
Cincinnati, Ohio, June 22, 1864.

PROPOSALS ARE INVITED BY THE UNDERSIGNED until Thursday, July 7th, 1864, at 2 o'clock P. M., for furnishing this Department (by contract) with—

Trowsers, Footmen's—Standard.
Samples of which may be seen at the Office of Clothing and Equipage in this city.

To be delivered free of charge, at the U. S. Inspection Warehouse in this city, in good new packages, with the name of the party furnishing, the kind and quantity of goods distinctly marked on each article and package.

Parties offering goods must distinctly state in their bids the quantity they propose to furnish, the price, and the time of delivery. Samples when submitted, must be marked and numbered to correspond with the proposal, and the parties thereto must guarantee that the goods shall be, in every respect, equal to Army Standard, otherwise the proposal will not be considered.

A guaranty signed by two responsible persons, must accompany each bid, guaranteeing that the bidder will supply the articles awarded to him under his proposal.

Bids will be opened on Thursday, July 7, 1864, at two o'clock, P. M., at this office, and bidders are requested to be present.

Awards will be made on Friday, July 8th.

Bonds will be required that the contracts will be faithfully fulfilled. Telegrams relating to proposals will not be noticed.

Blank forms of proposals, contracts, and bonds, may be obtained at this office.

The right to reject any bid deemed unreasonable is reserved. By order of Col. Thomas Swords, A. Q. M. G.

C. W. MOULTON, Captain and A. Q. M.

WANTED.—TO CORRESPOND WITH PERSONS who have seamed lumber—pine, oak, and ash—and who are prepared to build seed-planters. Address A. M. PENISTON, care of Nanson, Damerren & Co., St. Louis, Mo. 2 2*

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FAIRBAIRN ON IRON.—IRON, ITS HISTORY, Properties, and Processes of Manufacture. By Wm. Fairbairn. One vol. 12mo. cloth, \$4 50. For sale by D. VAN NOSTRAND, 192 Broadway, New York. 1

T. J. WELLS'S PATENT SELF-FEEDING AND Portable Circular Hand Saw indispensable as a tool for Carpenters and all other Wood-workers. See cut in Vol. 8, No. 8, SCIENTIFIC AMERICAN. General Depot No. 55 Liberty street, New York. 2 2*

FOR SALE.—STATE RIGHTS IN MY NEW AND valuable Coal Scuttle, now in successful operation, patented April 12, 1864; illustrated in the SCIENTIFIC AMERICAN June 11. Business men or others with small capital will find this an opportunity seldom offered. The cost of manufacture is from \$1 to \$1.25 each, whereas common scuttles sell for \$1, and the scuttles now in use from \$2 to \$3.50 each, thus leaving a very large margin for profit in favor of my scuttle, besides its convenience, durability, etc., above all other articles now used for a similar purpose. The capital required for the business is small, a drop or screw press with dies being the chief requisite for its manufacture. This is an article that must and will find its way into every family where coal is used as fuel. For full particulars send for circular, addressing the inventor, OTHO N. CHASE, Boston, Mass. 1*

KING ON STEAM.—LESSONS AND PRACTICAL Notes on Steam, the Steam Engine, Propellers, etc., etc., for young Engineers, Students, and others. By W. H. King, U.S.N. Ninth edition, revised by Chief Engineer J. W. King, U.S.N.

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GREAT MEN, LIVING AND DEAD—HANCOCK, SEDGWICK, WADSWORTH, HAWTHORN, MURILLO, President of Colombia S. A., and the DYING GLADIATOR: Who shall be our next President? Portraits, Character, and Biographies, in the July Illustrated PHRENOLOGICAL JOURNAL. All newsdealers have it. Double No.; 20 cents, or \$2 a-year. FOWLER & WELLS, 389 Broadway, New York. 1 2

CARPENTER'S AND WOODWORKER'S WHO USE Talpey's Patent Self-feeding Hand-sawing Machine are doing three times the work, with the same number of hands, that they used to with the common hand saw, do it better, do it easier and do it with less waste of stuff and labor in dressing up. Send for a circular to HOAG & HAMPSHIRE, 96 Maiden Lane, New York. 1 3*

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CONTENTS.

THE INDICATOR. The Indicator scale; To graduate the Indicator scale; When the atmospheric line is to be traced; The use of the small hole in the side of the stop-cock; Method of taking a diagram; It is important to have means of shortening or lengthening the string attached to the Indicator; The pressure of the steam and the state of the vacuum on the diagram do not correspond with the boiler-pressure and condenser-vacuum; The part of the engine to which the string should be attached; On the general configuration of the diagram under given circumstances; The above curves exhibit what has been going on within the engine; The slide diagram; To reduce the motion of the slide when too great; To explain how an alteration in the length of the gub-lever affects the diagrams; To explain why the accompanying diagram has a different outline from the standard diagram; Top and bottom diagrams with the slide-rod lengthened; To find the nature of the curve, if the slide-rod be shortened; Top and bottom diagrams with the slide-rod shortened; The effect on the diagram, if the stop on the eccentric be too far advanced; Top and bottom diagrams with the eccentric stop advanced; To ascertain, by inspecting the diagram, if the stop on the shaft be not sufficiently advanced; Top and bottom diagrams with stop of eccentric put back; Slide diagrams with eccentric stop wrongly placed; The nature of the diagram when the portways of the cylinder or the steam-pipe are too small for the size of the cylinder and the speed of the piston; Diagram obtained when the steam is throttled; On the force of the diagram when the expansive gear alone is used; Top and bottom diagrams when working expansively; To show the advantage of expansive working over throttling; The general outline of the diagram may appear satisfactory, notwithstanding the engine is not in good working order; On the series of steps in the upper right hand corner of the accompanying diagram; To explain why, in certain cases, the steam line (when the expansive gear is used) does not descend so rapidly as the theoretical case; To ascertain the horse-power of an engine by means of the Indicator; Where accuracy is required a diagram should be taken from the top and bottom of the cylinder; A diagram representing the relative motions of the slide and piston at every part of the stroke; To find, separately, the value to be given to the steam and vacuum pressures; To estimate the work done in a single stroke of the engine; Method of employing the Indicator for ascertaining the quantity of water evaporated by a boiler; To ascertain the friction of the steam engine when working without any load; The diagram does not necessarily return into itself, and form a closed figure; To explain why the first diagram is rounded at the upper left hand corner; Indicator diagram taken when the engine is worked without condensation of the steam; High pressure diagram; Diagram obtained when there was no load on the safety-valve; Air pump diagram. THE DYNAMOMETER. Method of obtaining the effective horse-power of an engine by the Dynamometer; Pressure of steam and the corresponding temperature and relative volume; Areas of circles of given diameters.

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MECHANICAL AND OUT-DOOR PHOTOGRAPHY.—GEO. C. ROCKWOOD, Photographer, 839 Broadway, New York, will, during the Summer months, give his personal attention to Photographing Locomotives, Machinery of all kinds, in shops if necessary, and to taking all kinds of out and in-door views, in any part of the country. Refers to W. G. Hamilton, Jersey City Locomotive Works; B. J. Burnett and C. Holmes, of the Novelty Works; J. M. Toucey, Hudson River Railroad; and others. Plans copied to a scale.

MEDICAL PURVEYOR'S OFFICE, New York, June 9, 1864. IMPORTERS AND DEALERS IN MEDICINE, HOSPITAL STORES, Bedding, etc., are invited to submit their quotations to the Army Medical Purveyor at his Office, 469 Broadway street, for his information and guidance in the purchase of supplies.

HOW HE LIVED 120 YEARS. Life of an old man. How he ate and drank; Sleep, Marriage, Eyes, Teeth; How he Died. Address to Working Men. Free Will; Temptations, Improvement. The English Language; Phonography; The Road to Knowledge. In July Double No. PHRENOLOGICAL JOURNAL. 20 cents by post; Newsmen have it. FOWLER & WELLS, 389 Broadway, New York.

FOUNDRY FOREMAN WANTED.—TO TAKE charge of a Machine Foundry in a Western city. Location healthy and pleasant. Situation permanent and salary liberal. Must be a practical foundryman, of steady habits and good moral character, and would prefer one unconnected with the "foundry" Union. Address "Foundryman," care of BRIDGES & LANE, 60 Courtland street, New York.

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For further particulars address—

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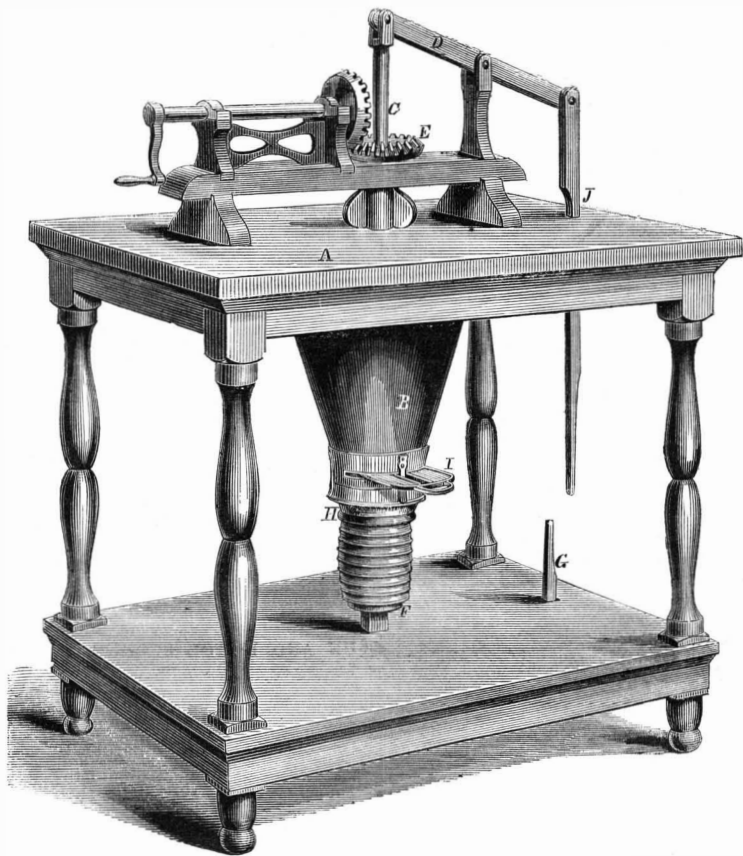
Improved Flour-packing Machine.

The engraving published herewith represents a machine for packing flour recently invented by Albert Brown, of Mifflinsville, Pa. It consists of a frame, A, which supports the packing machinery, and a hopper, B, which has a shaft, C, passing through it; at the lower end of this shaft there are two screw-shaped blades or packers. These are set one over the other, and the object of employing two is, that one shall spread the flour, or distribute it evenly to the lower one, so that the flour shall be evenly compressed in the barrel. The upper end of the shaft has a jaw upon it which connects with a lever, D; and the gear E, inside the hopper and below the frame there is a pair of grooved rollers which embrace the shaft between them, so that while they lessen the friction of the parts working together they also keep the shaft true

very valuable for canvas and cordage, but the latter has almost a monopoly of manufactures of its class, and is common in all civilized countries and to all ages, from the Jewish era of "purple and fine linen" to the present day.

The Commissioner of Agriculture has received, recently, from different parts of the country, specimens of fibrous plants, indigenous, and seemingly worthy of experiment. The fiber of one of them, a member of the *Asclepia* family, is very long, fine, abundant, and exceedingly strong.

It is not improbable that new textiles may yet be added to the present list, and found more productive, more easily worked, or better adapted to particular uses than any others now known. The specimen of *Asclepia* in question has been submitted to experiments, similar to those by which flax is cottonized, and the result is a beautiful article, stronger than cot-

**BROWN'S MACHINE FOR PACKING FLOUR.**

in its relation to the barrel or bag to be filled. The barrel is raised or lowered by the lever, G; and there is an adjustable funnel, H, at the bottom of the hopper, B, over which the mouth of a bag may be fitted closely. The gate, I, closes the mouth or bottom of the hopper, so that the flour above cannot escape when the full bag or barrel is removed; and it also regulates the descent of the flour to the packers as they require it. In the model from which the engraving is taken a crank is shown on the driving shaft, but in the working machine a pulley is to be applied. The shaft which carries the packers is weighted to give the necessary pressure to enable them to perform properly, and the shaft and packers attached rise as spring-rel is filled. The shaft is then sustained in its place by a spring catch on the handle, I, which enables the operator to put another barrel in position and proceed as before.

This flour-packer was patented on the 29th of April, 1862, by Albert Brown, of Mifflinsville, Pa. For further information address him at that place.

Flax and Flax-cotton.

The *Linum usitatissimum* of botany, from which the English *lint* and *linen* are derived, is now, by the peculiar circumstances of the production and consumption of textiles, and the comparative success of mechanical invention in the direction of flax manufacture, brought very prominently to public view. Many fibrous plants are used for cordage, clothing, and other purposes; among them hemp, jute, various tropical plants, &c. The New Zealand flax, or *Phormium tenax*, is much stronger than *Linum*, and

ton or flax-cotton, fine and lustrous, and apparently susceptible of working upon cotton machinery. It is cottonized at less expense than flax.

A Mathematical Description of a Boiler Explosion.

The *Journal of the Franklin Institute* publishes a communication from John W. Nystrom, giving a history of the boiler explosion at Cornelius & Baker's works, from which we take this extract:—

"I shall first explain it as if I had been on the spot and seen it with my own eyes, and then give the data upon which my argument is based. The mud-drum in the northern boiler was the first that gave way and caused the explosion. It burst near the middle, about 4 inches from the center line; the numerous fragments of the mud-drum bruised and cut several holes in the shell of the tubular boiler above it, and also one hole in the south boiler. The before-calculated collective force in the boilers, is now suddenly relieved; its momentum finds the weakest part, first in the tubular boiler next to the bursted mud-drum, to be in the connections where nearly half of the strength of the shell is cut away. It blew wide open the whole length, acted uniformly on the steam-drum above, threw the latter up with a velocity of 254 feet per second, or 173 miles per hour, into the air, at an angle of 47° 30' south, by 7° 16' east, struck the cornice of the main building 60 feet 4 inches above, and 58 feet 2 inches horizontally from its home. When it struck, it was at an angle of about 20° to the building, with the gage-cock or man-hole end foremost. This obstruction caused it to deviate from its original course about

11° 16', or south, by 4° west; continued to a height of 272 feet, the vortex of the parabola. In the flight it made $1\frac{3}{10}$ turns in the length, and arrived with a velocity of 237 feet per second, from an altitude of 51° 30', in the Penn stable, Market street, just 1,000 feet from home. The drum seemed to have been horizontal with north and south, when it struck the roof of the stable, falling with the south end on a strong beam in the floor, broke through with the north end into the cellar, where it injured slightly one man, and killed a horse, rested in a position of about 55°. The time of flight was about 5.75 seconds."

THE design for the Gettysburg monument, awarded to Mr. James G. Batterson, of Hartford, Conn., is as follows:—A solid white marble base with four buttresses, each supporting a statue representing respectively, "History," "War," "Peace" and "Plenty." From the center rises a shaft of marble, crowned with a colossal bronze statue of the "Goddess of Liberty," fifteen feet high. The height of the monument will be fifty feet, and the cost will be fifty thousand dollars.

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