

## RECENT AMERICAN INVENTIONS.

The following inventions are among the most important of those for which patents have recently been granted, and which will be found recorded in our List of Claims.

**Hand-Mowing Machine.**—The object of this invention, patented by L. M. Doudna, of Amherst, N. H., is to obtain a simple and efficient mowing machine, to be operated by hand; one that can be operated or shoved along by a single person with facility and perform good work. The invention is more especially designed for mowing lawns and meadows containing trees, around which an ordinary mowing machine drawn by a team could not be made to operate to advantage. The invention consists in mounting an ordinary hand frame on wheels, the axis of which is provided with a serpentine cam, said cam, as the machine is shoved along, operating or vibrating a bar, having a segment cutter at its outer end, and which works over a segment cutter plate.

**Machine for Pegging Boots and Shoes.**—This invention, patented by Moses Marshall, of Lowell, Mass., relates to a device for pegging boots and shoes by manual operation, and has for its object the facilitating of the work, enabling the same to be performed much more expeditiously and perfectly than by the exclusive manual process of punching the soles and driving the pegs therein. The invention consists in the employment and use of an awl, punch and feeder, combined and arranged to operate in such a manner as to effect the desired end.

**Improvements in Ordnance.**—The principal object of this invention, patented by William Page, of New York city, is to obtain in a gun of smooth bore the advantages derived from a rifle bore, viz., the rotary motion of the projectile about its axis, with a less costly combination of the gun and projectile, less wear and tear of the gun, and less liability to windage; and to this end this invention consists in furnishing a gun, at or near its muzzle, with one or more pins or short protuberances projecting from the surface of the bore toward the axis thereof, to enter spiral grooves in the exterior surface of the projectile, which is to be of sufficient length to reach from the charge of powder or packing to the muzzle, or to a point in front of the said pins or protuberances.

**Applying Fuse to Projectiles.**—This invention, patented by R. P. Parrott, of Cold Spring, New York, is more especially intended for the explosive projectiles of elongated form usually thrown from rifled cannon, and which move with the point forward; and it has for its principal object to make the same fuse serve either as a time fuse or a percussion fuse, as may be desired, the fuse employed being the paper fuse commonly used in shells, or of any other suitable kind, and the use of fulminates being dispensed with. The said invention consists in providing in the projectile, on each side of the hole, commonly known as the fuse hole, a hole for the reception of the fuse intersecting or meeting the first-named hole in a transverse direction. In connection with this transverse hole for the reception of the fuse, there is employed in the first-mentioned hole to effect the explosion of the projectile by percussion, a movable plug, plunger or other piece of metal suitably applied to break the fuse when the projectile strikes, so that the fire from the fuse, which is ignited by the fire of the gun, may communicate with the charge of the projectile; but this plug or piece may be omitted when the fuse is to be used as a time fuse.

**Water Closet.**—This invention, patented by F. H. Bartholomew, of New York city, relates to an improved water closet of that class which are provided with metal hoppers attached directly to the trap. The object of the invention is to so combine and arrange a hopper, trap, trap screw or opening and floor flanch that the trap may be screwed to the floor and made to serve the double function of a trap and stand or support for the hopper, the trap at the same time admitting of being cleansed when necessary with the greatest facility. The invention also has for its object the attaching of the wooden seat to the hopper in such a way that no other support will be required, and the whole device thereby rendered capable of being put up or adjusted for use independent of extraneous fixtures or framing hitherto required to sustain the seat. The invention has farther for its object the concealment of the contents of the trap, a desirable feature in using the water closet.



ISSUED FROM THE UNITED STATES PATENT OFFICE  
FOR THE WEEK ENDING NOVEMBER 5, 1861.

Reported Officially for the Scientific American.

## PATENTEES, READ THIS.

The new Patent Laws which went into force on the 2d of March last, authorized the Commissioner of Patents to have all the specifications which form part of the Letters Patent printed.

This is a wise provision, and it renders the documents much handsomer than the old system of engraving them on parchment; besides, in passing before the printer and proof reader, the clerical errors, which were often made by the copyist, are mostly obviated, thus rendering the patent more likely to be correct.

But to afford the printer and proof reader an opportunity to do their work properly, the Patent Office is obliged to withhold the Letters Patent after granting them, from four to six weeks after the claims are published in the SCIENTIFIC AMERICAN.

\* \* Pamphlets giving full particulars of the mode of applying for patents, under the new law which went into force March 2, 1861, a specifying size of model required, and much other information useful to inventors, may be had gratis by addressing MUNN & CO., Publishers of the SCIENTIFIC AMERICAN, New York.

2,624.—Benjamin Andrews, of Philadelphia, Pa., for Improvement in Army Trunks:

I claim the folding platform, B, in combination with the mattress, A, tray, D, and drop leg, F, the same being constructed and arranged to operate together in combination with a trunk, whether closed or opened, substantially in the manner described and set forth for the purpose specified.

And in combination with the said platform, B, mattress, A, tray, D, and drop leg, F, constructed and arranged to operate as described, I claim the legs, h, h, attached thereto, so as to operate in the manner described and set forth, and for the purpose specified.

2,625.—John P. Avery, of Norwich, Conn., for Improvement in Trusses for Bridges:

I claim the combination of two sets of braces standing upon two base chords, and terminating at the top in one chord, forming a truss. And also the combination of two or more trusses thus formed by making one set of braces in each truss unite or stand on the same base chord, the whole being constructed substantially as described and for the purposes set forth.

2,626.—H. W. Ball, of New York City, for Improved Cook Stove and Camp Chest Combined:

I claim a cook stove, C, and boiler, D, when constructed and arranged to fit one within the other, and to contain the necessary culinary vessels, dishes, &c., when said stove is used in connection with a camp chest, A, and combined therewith, substantially as and for the purpose set forth.

[For description of this invention see page 286 of the current volume.]

2,627.—C. H. Ballard, of Worcester, Mass., for Improvement in Breech-Loading Fire Arms:

I claim, first, The breech, B, composed of a long block with shoulders, a, b, fitted to corresponding shoulders, e, f, within the breech supporter, A, and arranged in combination with a lever, D, to move upward and downward, as well as longitudinally within a parallel-sided cavity in the said supporter, under the control of guides, d, d, above and below its said portion, all substantially as described.

Second, The arrangement of all the parts of the lock of breech-loading rifle or other small arm within a slot in the movable breech, substantially as specified.

Third, The link, E, having a protuberance, e, applied in combination with the lever, D, the breech and the hammer, for the purpose of bringing the hammer to half cock by the act of opening the breech, substantially as specified.

Fourth, Combining the lever, F, with the hammer, H, by means of a horn, n, or its equivalent, substantially as and for the purpose specified.

[This invention consists in a novel construction and mode of applying a movable breech for breech loading; also in the arrangement of all the parts of the lock of a breech-loading firearm, within a slot in the movable breech; also in certain novel means of bringing the lock to half-cock by the act of opening the breech; and further in certain means whereby the cartridge-drawing device, after having drawn the discharged cartridge case, is returned to a recess within the barrel, out of the way of the movable breech and lock, by the force of the main spring of the lock acting through the hammer.]

2,628.—F. H. Bartholomew, of New York City, for Improved Water Closet:

I claim, first, The combination of the trap, A, hopper, B, opening, h, provided with the cap or lid, j, and the flanches, e, f, either or both, at the lower part of the trap, all being arranged substantially as and for the purpose set forth.

Second, The flanch, C, for the attaching of the seat, E, directly to the hopper, B, when said hopper is attached to a trap, A, which serves the two-fold purpose of a trap and stand or support, as set forth.

Third, Constructing or casting the trap, A, in the form substantially as shown and described, to wit, having it so curved that a screen or partition, d, will project forward in front of the lower or discharge end of the hopper, B, for the purpose of concealing the contents of the trap, as described.

2,629.—J. D. Boedicker, of New York City, for Piano-forte Action:

I claim, first, The arrangement of the levers, n and m, in combination with the hammer shank, I, and acted upon by the jack, B, in the manner and for the purpose substantially as described.

Second, I claim the use of the spring, S, between the end of the lever, n, and the hammer shank, I, operating the levers, n and m, and in combination with the jack, B, the hammer, H, in the manner and for the purpose substantially as set forth.

Third, I claim the screw, v, or its equivalent, acting upon the levers, m and n, substantially as specified.

2,630.—John Bruckshaw, of Oakley, Henry Bruckshaw, of Market Drayton, and Wm. S. Underhill, of Newport, England, for Improvement in Machines for Elevating Grain:

We claim the elevating or raising grain from one level to another by means of a blast and fan, as more fully set forth and specified.

2,631.—E. B. Butterfield, of New York City, for Improvement in Breech-Loading Ordnance:

I claim combining with the breech of a breech-loading cannon, a movable breech pin and a movable breech piece, the breech pin being arranged and constructed so as to screw into the breech, at the end of the bore or chamber and the breech piece having a socket in which is a screw corresponding with and forming a continuation of the screw in the bore or chamber, substantially as and for the purposes described.

2,632.—A. H. Dixon, of San Francisco, Cal., for Improvement in Grain Separators:

I claim, first, The employment or use of a series of adjustable screens, e, and stationary chutes, f, placed in a vibrating or reciprocating box, D, connected at their outer ends by strips, g, of leather or other suitable material, and placed relatively with the fan-box, C, to operate as and for the purpose set forth.

Second, The employment or use of the slides, G, placed beneath the screens, e, at their outer ends, substantially as and for the purpose set forth.

[This invention relates to a new and improved machine, designed for separating wheat from oats, as well as from straw and other foreign substances. The object of this invention is to obtain a machine which may be adjusted to suit the condition or quality of the grain, and to leave the blast in a more efficient manner than hitherto on the former.]

2,633.—Lewis Dungan, of Philadelphia, Pa., for Improvement in Apparatus for Preserving and Discharging Malt Liquors:

I claim the tube, M, with its detachable air-tight cap, N, when combined with the piston, D, of the described apparatus for preserving and discharging malt liquors, substantially in the manner and for the purpose specified.

2,634.—H. G. Eastman, of Poughkeepsie, N. Y., for Penman's Assistant:

I claim the use of a spherical or other shaped instrument having finger rests or supports attached thereto, substantially as described, for supporting the hand and fingers, for the purpose set forth.

2,635.—J. Fergusson, of Dubuque, Iowa, for Improvement in Grain Separators:

I claim the wheat riddles, D, constructed and operating in the manner substantially as described, for the purpose set forth.

Second, The combination of the wheat riddles, D, pins, j, and bottomless hopper, E, substantially as and for the purpose described.

Third, The combination of the wheat riddles, D, springs, G, and eccentric, f, substantially in the manner and for the purposes described.

Fourth, The combination of the wheat riddles, D, and the cork riddle, I, substantially in the manner and for the purpose described.

Fifth, The combination of the wheat riddles, D, and fan, B, substantially as and for the purpose described.

Sixth, The adjustability of the hopper, E, relatively to the upper riddle, D, substantially in the manner and for the purpose described.

2,636.—D. K. Fishel, of Lancaster, Ohio, for Improvement in Weather Strips and Fasteners for Doors:

I claim the sliding threshold or carpet strip for the purposes set forth, substantially as described.

I also claim in combination with the sliding threshold the weather strip and door fastener described.

2,637.—Henry Francisco, of White Water, Wis., for Improved Spring Tooth for Cultivators:

I claim a spring cultivator tooth constructed and operating substantially in the manner and for the purpose described, in combination with a check brace, substantially as described.

Second, So constructing the shoulder of a cultivator tooth, that when the working point of the tooth is arrested by any sudden obstruction, strain on the tooth will be relieved by the action of the shoulder, substantially as described.

2,638.—Thomas Gates, of Worcester, Mass., for Improved Refrigerator:

I claim the refrigerator, as described, consisting of the ice case, chamber and base, with its movable table, when constructed in the manner and for the purpose set forth and described.

2,639.—D. S. Hamilton, of Elmira, N. Y., for Improvement in Rotary Pumps:

I claim the combination of the annular piston space, E, having both annular sides fixed, with the butment, G, bearing on one of the said fixed annular sides, substantially as and for the purpose set forth.

I also claim the combined arrangement of the butment, G, and induction and education apertures, J and D, so that the said aperture shall be nearly or quite radially opposite to each other, and the butment shall close diagonally between the two, and open into the education aperture, for the purpose specified.

I also claim inclining the closed butment and approaching piston toward each other, so that the piston shall open the butment in the direction contrary to that of its own motion, substantially as and for the purpose specified.

2,640.—J. W. Hardie, of New York City, for Improvement in Army Trunks:

I claim, first, The construction of the trunk, as described with the upper section of less depth than the lower, when hinged at the end, as set forth, and provided with sockets or their equivalent, and in combination therewith the U-shaped irons, for the purposes and substantially as set forth.

Second, The table hinged so as to fold and provided with ears or hooks, as specified, for the purposes described.

Third, The combination of the frame, U-shaped iron and top of the trunk, when the said frame is hinged to the trunk top, and supported by the iron, for the purpose of forming a high-backed chair in connection with the body of the trunk, in the manner specified.

Fourth, The double frame or frames, E, F, having two sets of braces, G, G, and Z, Z, for the several purposes set forth, arranged and combined with the trunk, substantially as described.

Fifth, The frame, D, hung near the main hinges, so as to swing up and permit the folding out of the double frame, E, F, as set forth.

2,641.—D. A. Haviland and A. S. Phillips, of Fort Dodge, Iowa, for Improvement in Apparatus in Handling Hides in Tanning:

We claim the arrangement of the windlass axles, D, D', cranks, F, F', movable bars, E, and standards, B, B', with the vat, A, the whole combined and operating in the manner and for the purpose described.

[This invention is designed to supersede the ordinary mode of handling skins in the process of tanning, and it consists in the arrangement of a series of movable bars and windlass with a vat, whereby a great number of skins can be simultaneously lowered into or raised out of the vat, thereby effecting a great saving of time and labor, and doing the work more uniformly than heretofore.]

2,642.—W. S. Henson, of Newark, N. J., for Improvement in Breech Loading Ordnance:

I claim the independent recoiling breech, together with the non-recoiling barrel and double vents, made and operated as described.

2,643.—B. J. Hildreth, of Philadelphia, Pa., for Improved Sash Supporter:

I claim the T-shaped shoe, c, and spring, d, with the cavity, b, and groove, a, when combined, arranged and operating in the manner and for the purpose described.

[This invention is designed more especially for railroad cars, and consists in a peculiar device, by which the sashes are kept pressed outward against the jamb of the window frame, to form a light joint, and by friction alone made to sustain themselves in any desired position.]

2,644.—A. H. Jones, of Falsington, Pa., for Improvement in Corn Shellers:

I claim the weighted arm, L, arranged in respect to the plate wheel, G, and snapper wheel, K, as and for the purpose set forth.





2,682.—W. H. Towers (assignor to W. S. Bard), of New York City, for Improved Broom:

I claim embodying and securing in the central part of the broom below the handle, a curved, rigid strip or plate, C, and divergent body or bodies of Tampico grass, South American bass, or other like material substantially in the manner and for the purposes set forth.

2,683.—Ferdinand Wäterich (assignor to himself and J. M. Hathaway), of New York City, for Improvement in Machines for Making Cigars:

I claim, first, The pointing rollers, P P P, for pointing a cigar, by pressing and rolling upon the head or point of it while the wrapper is being rolled on, as described.

Second, Making pointing roller, P, to open, for the greater convenience of putting in the bunch or filling and taking out the cigar after it is completed, as described.

Third, A movable pointer to press upon the head or point of a cigar, and form it while the wrapper is being rolled on, and the cigar is being made, as described.

Fourth, Cutting the wrapper after it is rolled upon the cigar up to, or upon, the point by means of shear knives, T and W, placed at or near the point of the cigar, as set forth.

Fifth, Cutting the wrapper the required shape and length after it is rolled upon and near to the point of the cigar, by means of die cutters Y and X, when placed in proper position, as described.

Sixth, The hinged pattern or shape, Z, to be used as a pattern to shape the wrappers to form the point of the cigar, as described.

Seventh, Connecting the cylinders or rollers, G and G, by pins or dowels as described.

Eighth, Placing roller or rollers, N N, in the pocket of a cigar machine and holding them there by adjustable strip or strips, M, for holding the cigars while the pointer presses upon and finishes the point, as described.

DESIGN.

122.—Gardner Chilson, of Boston, Mass., for a Design for Parlor Stove.



C. C. B., of N. Y.—We know no reason why a smooth bore should not send a globular projectile as far as a rifle. As a cylindrical or conical projectile would be kept end foremost throughout its flight by the rotary motion imparted to it by the rifle, it would have a greater range than if fired from a smooth bore.

A. D., of Ind.—You will find all the information we possess respecting a position as engineer in the Navy, upon page 198, Vol. IV. (new series) SCIENTIFIC AMERICAN. The information then published was obtained from a former Engineer-in-chief of the Navy, and is therefore reliable.

E. M. B., and G. W. L., both of New York.—On another column you will find a notice of a work on drawing.

A. F. M., of New York.—B. H. Horn, No. 212 Broadway, has compound microscopes at \$2.50 each. The object glass of these has a focal length of about one inch. The mounting is simple, but good enough. He has others with two additional object glasses at \$3.50 and \$4. They are sufficiently powerful for showing infusoria.

C. W., of Mass.—Fulminating mercury is probably the material which is put into the caps that are used in the Prussian rifles; at all events this substance would be suitable.

O. D. B., of Pa., asks the following questions:—"A gets a machine patented. B buys one of the machines with a shop license. Now if B sells the machine to C, is there any law to prevent C's using it?" Ans.—C has no right to use the machine unless B also sold the shop license with it.

J. N. E., of Mass.—There is no illustrated paper published in this city called the "Buying Guide."

J. G., N. J.—Aich's alloy is composed of copper, 60 parts, zinc 38.20 parts, and iron 1.80 parts. It is darker in color than common brass; it bends at a red heat, is ductile, takes a high polish, and can be worked with a hammer almost like wrought iron.

J. B. Z., of N. T.—Pewter is composed of tin 100 parts, antimony 8 parts, copper 4 parts; bismuth one part. Fuse the whole together in a crucible—the copper first, then the other metals. The cheapest kind of pewter is composed of tin 4 parts, lead one part. In an elaborate report of a French commission appointed several years since to examine into the character of alloys, it is stated that pewter containing more than one part of lead to five of tin is dangerous to use. A paste composed of borax, soda, and ground glass, will form a good glaze for your bricks. They should be first dipped into this paste, then dried slowly and afterward burned in the kiln.

J. C., of Va.—Your suggestions in regard to rifles have been elaborately discussed, and many of them tried.

M. H. B., of Mo.—Benzole is manufactured by distilling naphtha at a temperature of from 176° to 194° Fah. It is frequently used under the name of benzine, and is very useful for cleaning soiled gloves, silks, &c. It vaporizes at a low temperature and may be burned like common coal gas.

E. D. H., of C. W.—The gloss on shirt collars and bosoms is put on by friction with a hot iron. Use starch containing a small quantity of white wax or spermaceti, and the table upon which you perform the ironing should have a hard smooth surface. Clean pasteboard, of which calender rollers are made, is the best material you can use for covering the table.

M. C. D., of N. Y.—All the information which we possess concerning the Henry rifles was given with the illustration on page 44 of current volume of SCIENTIFIC AMERICAN. Many of our marksmen use bullets containing a small portion of tin. It is believed that they are not so liable to strip as those made of pure lead. You will find an article on American and English rifles on page 266, current volume.

H. C. S., of Mo.—The process of concentrating sweet milk is not a secret, but is secured by patent to Gall Borden, Jr. The milk is concentrated in a vacuum pan, similar to saccharine fluid.

W. M. W., of Mass.—In order to secure attention to your theory of two forces to produce the motions of the planets, you must compare it with Sir Isaac Newton's calculations based on the theory of one force, and see which explains all the phenomena in the most satisfactory manner. We have recently received a long communication contending that all the inhabitants of the earth and other planets are living in the insides of the globes instead of upon the outsides.

B. M. of N. Y.—To enable us to give you proper advice respecting your ventilator, we require a sketch and description of the plan you desire to patent. If your model is ready you had better bring it to our office whenever you are in the city.

W. S. K., of N. Y.—Mr. Meigs, the contractor of the Valparaiso and Santiago R. R., has no office in this city, so far as we know. We presume his headquarters are at Valparaiso.

J. T. E., of C. W.—We are informed that Morrison's grammar and dictionary of the Chinese language are suitable for your purpose. Write to C. S. Francis & Co. of this city.

H. P., of Mo.—Kaolin is the most suitable substance from which to obtain aluminum, though labradorite is frequently used. The usual method is to decompose the chloride of aluminum with the chloride of soda. You will find a minute description of the process in Gregory's Chemistry, and other modern works. Two new processes are described on page 345, Vol. II. (new series) SCIENTIFIC AMERICAN.

J. M., of Mich.—Byrne's Cyclopeda of Engineering has a pretty good description of the glyptographic process. We have used a good deal of india ink but never heard of any process for rendering it when very black, more fluid than the aqueous solution.

Money Received

At the Scientific American Office on account of Patent Office business, during one week preceding Wednesday, Nov. 20, 1861:—

- H. C. H., of Ill., \$20; M. and M., of Ohio, \$20; J. S., of N. Y., \$20; T. L., of Conn., \$28; M. C., of Me., \$25; P. and C., of Conn., \$25; J. J. M., of Conn., \$25; W. B., of N. Y., \$20; F. J. F., of Pa., \$15; S. E. and P., of Wis., \$20; C. and P., of Me., \$15; G. H. S., of Iowa, \$15; J. W. C., of Mass., \$15; S. D. K., of N. Y., \$15; L. and W. of N. Y., \$25; A. B. H., of Conn., \$0; A. M., of Ohio, \$15; I. H. S., of R. I., \$25; S. G. B., of Conn., \$15; M. E. L., of N. Y., \$25; J. S., of N. Y., \$40; G. K. W., of N. Y., \$25; R. S., of N. Y., \$25; A. H., of Minn., \$20; W. F., of Iowa, \$45; J. A. DeB., of N. Y., \$49; H. K., of Pa., \$30; N. McC., of N. Y., \$25; R. W., of Conn., \$15; J. N., of Ind., \$15; R. S., of N. Y., \$35; M. W. W., of Ill., \$25; C. M. S., of Conn., \$15; G. K., of Pa., \$25; N. B. J., of Mass., \$10; C. and G. M. W., of N. Y., \$100; E. and R., of N. Y., \$15; R. H. S. of N. Y., \$15; C. B. L., of Mass., \$15; T. and E., of Pa., \$15; J. S., of N. Y., \$25; G. W. R., of Ind., \$15; F. J., of N. B., \$15; S. I. B., of N. J., \$25; F. C. P., of N. Y., \$25; T. J. B., of N. Y., \$28; R. R., of N. Y., \$40; H. and Son, of Ohio, \$15; E. T., of Pa., \$20; E. R. O., of Ohio, \$15; J. K. A., of Ohio, \$15; S. P. O., of Conn., \$20; A. McG., of N. Y., \$15; E. C., of Mass., \$15; J. V. N., of N. J., \$12; L. S. H., of Cal., \$25; S. H., of Ind., \$15; J. B., of Cal., \$25; C. R. T., of Oregon, \$20; W. B., of N. Y., \$40; A. B., of N. Y., \$40; J. H. F., of N. Y., \$40; W. W., of Wis., \$25; F. G. W., of Mass., \$30; P. and S., of N. Y., \$25.

Specifications and drawings and models belonging to parties with the following initials have been forwarded to the Patent Office from Nov. 13, to Wednesday, Nov. 20, 1861:—

- T. L., of Conn.; R. R., of N. Y.; J. A. D. B., of N. Y.; A. J. A., of Wis.; J. V. N., of N. J.; J. J. M., of Conn.; M. C., of Me.; P. and C., of Conn.; N. McC., of N. Y.; J. K. A., of Ohio; G. K. W., of N. Y.; L. S. H., of Cal.; G. K., of Pa.; J. B. R., of Conn.; P. N., of France; F. C. P., of N. Y.; W. B., of N. Y.; T. J. B., of N. J.; H. W. B., of N. J.; L. W. P., of Mass.; L. and W., of N. Y.; P. and S., of N. Y.; R. S., of N. Y.; W. W., of Wis.; F. G. W., of Mass.; M. E. L., of N. Y.; S. J. B., of N. J.

New Books Received.

A MANUAL OF ELEMENTARY DRAWING.—By S. Edward Warren, C. E. Published by John Wiley 56 Walker street, New York.

This little work is designed for use in high schools, academies, engineering schools, &c., and for the self instruction of inventors, artisans, &c. It seems to be an excellent work.

THE HARBINGER OF HEALTH, Containing Medical Prescriptions for the Human Body and Mind. By Andrew Jackson Davis. Published by A. J. Davis & Co., 274 Canal street, New York. Price \$1.00.

We observe some good extracts in the book from Mirabeau, Emerson, SCIENTIFIC AMERICAN, and other well-known authorities. The work is designed for popular circulation, but we confess that we have not much faith in such books. They usually contain a mixture of sense and nonsense as is the case with the work before us. We have no doubt of the fact that Mr. Davis is a man of talent, but it strikes us that he is out of his element as a medical adviser.

RATES OF ADVERTISING.

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 they may deem objectionable.

THE CHEAPEST MODE OF INTRODUCING INVENTIONS.

INVENTORS AND CONSTRUCTORS OF NEW AND useful Contrivances or Machines, of whatever kind, can have their Inventions illustrated and described in the columns of the SCIENTIFIC AMERICAN on payment of reasonable charge for the engraving.

No charge is made for the publication, and the cuts are furnished to the party for whom they are executed as soon as they have been used. We wish it understood, however, that no secondhand or poor engravings, such as patentees often get executed by inexperienced artists for printing circulars and handbills from, can be admitted into these pages. We also reserve the right to accept or reject such subjects as are presented for publication. And it is not our desire to receive orders for engraving and publishing any but good Inventions or Machines, and such as do not meet our approbation in this respect, we shall decline to publish.

For further particulars, address—

MUNN & CO., Publishers SCIENTIFIC AMERICAN, New York City

CHANGE IN THE PATENT LAWS.

PATENTS GRANTED FOR SEVENTEEN YEARS.

The new Patent Laws enacted by Congress on the 4th of March, 1861, are now in full force, and prove 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:—

- On filing each caveat.....\$10
On filing each application for a Patent, except for a design.....\$15
On issuing each original Patent.....\$20
On an appeal to Commissioner of Patents.....\$20
On application for Re-issue.....\$30
On application for Extension of Patent.....\$50
On granting the Extension.....\$50
On filing Disclaimers.....\$10
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 Office, and we are prepared to attend to Patent business of all kinds in the quickest time and on the most liberal terms.

Testimonials.

The annexed letters, from the last three Commissioners of Patents, we commend to the perusal of all persons interested in obtaining Patents:—

Messrs. MUNN & Co.:—I take pleasure in stating that, while I held the office of Commissioner of Patents, MORE THAN ONE-FOURTH OF ALL THE BUSINESS OF THE OFFICE CAME THROUGH YOUR AGENCY. I have no doubt that the public good through the agency, as such, I have ever found you faithful and devoted to the interests of your clients, as well as eminently qualified to perform the duties of Patent Attorneys with skill and accuracy. Very respectfully, Yours, very truly, CHAS. MASON.

Immediately after the appointment of Mr. Holt to the office of Postmaster-General of the United States, he addressed to us the subjoined very gratifying testimonial:— Messrs. MUNN & Co.:—It affords me much pleasure to bear testimony to the able and efficient manner in which you have discharged your duties of Solicitors of Patents while I had the honor of holding the office of Commissioner. Your business was very large, and you sustained (and I doubt not, justly deserved) the reputation of energy, marked ability and uncompromising fidelity in performing your professional engagements. Very respectfully, Your obedient servant, J. HOLT.

Messrs. MUNN & Co.:—Gentleman: It gives me much pleasure to say that, during the time of my holding the office of Commissioner of Patents, a very large proportion of the business of inventors before the Patent Office was transacted through your agency, and that I have ever found you faithful and devoted to the interests of your clients, as well as eminently qualified to perform the duties of Patent Attorneys with skill and accuracy. Very respectfully, Your obedient servant, WM. D. BISHOP.

The Validity of Patents.

Persons who are about purchasing Patent property, or Patentees who are about erecting extensive works for manufacturing under their Patents, should have their claims examined carefully by competent attorneys, to see if they are not likely to infringe some existing Patent, before making large investments. Written opinions on the validity of Patents, after careful examination into the facts, can be had for a reasonable remuneration. The price for such services is always settled upon in advance, after knowing the nature of the invention and being informed of the points on which an opinion is solicited. For further particulars, address MUNN & CO., No. 57 Park-row, New York.

Extension of Patents.

Valuable Patents are annually expiring which might be extended and bring fortunes to the households of many a poor inventor or his family. We have had much experience in procuring the extension of Patents; and, as an evidence of our success in this department, we would state that, in all our immense practice, we have lost but two cases, and these were unsuccessful from causes entirely beyond our control. It is important that extension cases should be managed by attorneys of the utmost skill to insure success. All documents connected with extensions require to be carefully drawn up, as any discrepancy or untruth exhibited in the papers is very liable to defeat the application. Of all business connected with Patents, it is most important that extensions should be intrusted only to those who have had long experience, and understand the kind of evidence to be furnished the Patent Office, and the manner of presenting it. The heirs of a deceased Patentee may apply for an extension. Parties should arrange for an application for an extension at least six months before the expiration of the Patent.

For further information as to terms and mode of procedure in obtaining an extension, address MUNN & CO., No. 57 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