

bar, I, arranged in connection with the lever, J, and stops, ff, in the plate, L, for actuating the rack, C and knee, O, as specified.  
Fourth, Securing the crank, G, to the arm, H, by means of the bolt, b', fitted in the oblong slot, a', of the arm, H, for the purpose of varying the length of crank, G, and equalizing the movement of the knees, O, as set forth.

[This invention relates, first, to an improved block or base piece, constructed of wrought iron, and second, to a new and improved means for operating the knees of the head blocks, whereby the log may be adjusted accurately to the saw, any variation in the racks or mechanism connected therewith, being duly compensated for by a very slight adjustment of parts, so that both knees of a mill carriage may be operated simultaneously and with an equal movement.]

## EXTENSION.

5,769.—Josiah Kirby, of Cincinnati, Ohio, for Improvement in Machines for Cutting Bung. Extended Sept. 12, 1862.

I claim the application to making plugs for covering the heads of screws, nails, bolts, &c., used in ship building and other work, and plugs and bungs for barrels, of a cutter or hollow chisel, made so as to fit into a mandrel, by screw or otherwise, and bored out of the mouth at any given size, straight up far enough for the depth of a plug or bung, or to a given distance, then tapering into the center so as to point the plug, by compressing the end of the wood, a hole being bored through the whole length of the cutter, so as to admit a rod through to drive out the plug when cut.

I also claim as my invention, and desire to secure by Letters Patent, the application to making plugs and bungs, of the combination of the mandrel, cutter, driving rod and separator, as described in this specification, drawings and model.

## DESIGN.

1,656.—S. W. Gibbs, of Albany, N. Y., for Design for the Plates of a Stove.

1,657.—F. H. Gibney, of New York City, for Design for a Spoon and Fork Handle.

1,658.—W. S. Hill and S. T. Reed, of New York City, for Design for a Chess or Checker Board.

1,659.—J. R. Hyde, of Troy, N. Y., for Design for a Cook's Stove.

1,660.—H. I. Seymour, of Troy, N. Y., for Design for a Chair.

1,661.—N. S. Vedder and Ezra Ripley, of Troy, N. Y., assignors to N. S. Vedder aforesaid, for Design for the Plates of a Stove.

## Books and Publications Received.

**CARD OF STAMP DUTIES.** Published for the convenience of merchants, bankers, brokers, conveyancers, attorneys, &c., by Frederick A. Brady, 22 Ann street, New York:

This card exhibits the rates of all the stamp duties, very clearly arranged.

**ATLANTIC MONTHLY.** Published by Ticknor & Fields, Boston:

The October number of the *Atlantic* is too much filled with serials for our taste.

**BLACKWOOD'S MAGAZINE.** Published by Leonard, Scott & Co., 54 Gold street, New York City:

The last number of this able magazine contains two essays by Bulwer on action, thought and reverie, and how new theories should be received; also, a review of "Trollope's America," and several other articles.

## PATENTS FOR SEVENTEEN YEARS.



The new Patent Laws enacted by Congress on the 2d 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 appeal to Commissioner of Patents.....	\$30
On application for Re-issue.....	\$30
On application for Extension of Patent.....	\$50
On granting the Extension.....	\$50
On filing Disclaimer.....	\$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, excepting reference to such countries as discriminate against citizens of the United States—thus allowing Austrian, French, Belgian, English, 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, 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. More than 5,000 such examinations have been made through this office during the past three years. Address MUNN & CO., No. 37 Park-row, N. Y.

## How to Make an Application for a Patent.

Every applicant for a Patent must furnish a model of his invention susceptible of one; or if the invention is a chemical production, he must furnish samples of the ingredients of which his composition consists, for the Patent Office. These should be securely packed, the inventor's name marked on them, and sent, with the government fees by express. The express charge should be prepaid. Small models from a distance can often be sent cheaper by mail. The safest way to remit moneys by draft on New York, payable to the order of Munn & Co. Persons who live in remote parts of the country can usually purchase drafts from their merchants on their New York correspondents; but, if not convenient to do so, there is but little risk in sending bank bills by mail, having the letter registered by the postmaster. Address MUNN & Co., No. 37 Park-row, New York.

## Caveats.

Persons desiring to file a Caveat can have the papers prepared in the shortest time by sending a sketch and description of the invention. The government fee for a Caveat, under the new law, is \$10. A pamphlet of advice regarding applications for Patents and Caveats, in English and German, furnished gratis on application by mail. Address MUNN & CO., No. 37 Park-row, New York.

## Foreign Patents.

We are very extensively engaged in the preparation and securing of Patents in the various European countries. For the transaction of this business, we have offices at Nos. 66 Chancery-lane, London; 29 Boulevard St. Martin, Paris; and 26 Rue des Eperonniers, Brussels. We think we can safely say that THREE-FOURTHS of all the European Patents secured to American citizens are procured through our Agency.

Inventors will do well to bear in mind that the English law does not limit the issue of Patents to Inventors. Any one can take out a Patent there.

Circulars of information concerning the proper course to be pursued in obtaining Patents in foreign countries through our Agency, the requirements of different Patent Offices, &c., may be had gratis upon application at our principal office No. 37 Park-row, New York or either of our Branch Offices.

## Rejected Applications.

We are prepared to undertake the investigation and prosecution of rejected cases, on reasonable terms. The close proximity of our Washington Agency to the Patent Office affords us rare opportunities for the examination and comparison of references, models, drawings, documents, &c. Our success in the prosecution of rejected cases has been very great. The principal portion of our charge is generally left dependent upon the final result.

All persons having rejected cases which they desire to have prosecuted are invited to correspond with us on the subject, giving a brief story of the case, inclosing the official letters, &c.

## Assignments of Patents.

The assignment of Patents, and agreements between Patentees and manufacturers, carefully prepared and placed upon the records at the Patent Office. Address MUNN & CO., at the Scientific American Patent Agency, No. 37 Park-row, New York.

It would require many columns to detail all the ways in which the Inventor or Patentee may be served at our offices. We cordially invite all who have anything to do with Patent property or inventions to call at our extensive offices, No. 37 Park-row, New York, where any questions regarding the rights of Patentees, will be cheerfully answered.

Communications and remittances by mail, and models by express (prepaid), should be addressed to MUNN & CO., No. 37 Park-row, New York.

## TO OUR READERS.

**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* acknowledgment of our reception of their funds.

**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 is required to accompany the petition, specification and oath, except the government fee.

**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.

**NEW PAMPHLETS IN GERMAN.**—We have just issued a revised edition of our pamphlet of *Instructions to Inventors*, containing a digest of the fees required under the new Patent Law, &c., printed in the German language, which persons can have gratis upon application at this office. Address MUNN & CO., No. 37 Park-row, New York.



C. R., of N. Y.—The present law respecting steam-boiler inspection in this city, requires all persons who have charge of engines and boilers to undergo an examination before a competent Board.

E. H. G., of N. J.—Your whirling top is sustained in its horizontal position by the principle of the gyroscope. This is simply inertia. If you tie a stone to the end of a string and swing it rapidly around your finger you will find that it will resist any force tending to turn it from the plane of its revolution. Now, conceive a wheel made up of these revolving stones and you will understand that any rotating disk by simple inertia, offers resistance to any force tending to divert it from the plane of its revolution. The force that raises your suspended string is the muscular power of your hand.

E. S., of N. Y.—To drive a cotton mill of 104 looms with all the accompanying machinery you will require about 40-horse power—to be safe you had better secure 45. To find the quantity of water which will flow out of an opening, multiply the square root of the depth of the water by 5.4; the product is the velocity in feet per second. This multiplied by the area of the orifice in feet will give the number of cubic feet per second. The depth of your opening is 30 feet, the square root of which is 5.5, and this multiplied by 5.4 gives the velocity of the water at 29.7 feet per second. The area of your opening is 20 square inches—0.72 feet, which multiplied by 29.7 gives 21.4 cubic feet per second. To conduct this quantity of water through an open trunk 56 rods long with a fall of one-half inch to the rod, the trunk should be 16 inches wide with the water 8 inches deep. This last result is from Prof. Redtenbacher's formula, in which we have not perfect confidence. Indeed the velocity of water flowing through canals or troughs is affected by so many circumstances that a large margin for errors in any calculation should always be allowed.

O. C. H., of Conn.—Prescott's work on "The Electric Telegraph," published by Ticknor & Fields, Boston, is an admirable treatise. Smee's "Electro-Metallurgy" is an excellent work; we have not seen Walsher's.

S. W., of N. Y.—We do not know of any private manufacturers of paper cartridges. In relation to the motion of a carriage wheel your views would be correct provided the axle was stationary. All motion is relative, so far as human knowledge extends. If a man on a steamboat walk toward the stern, though in relation to the steamboat he will be moving forward, his motion will be backward in relation to that portion of the surface of the earth which is near to him; and it may be forward, backward or sideways in relation to the axis of the earth or to the solar system; while his motion through space depends upon the direction and motion of the solar system itself, which is not positively ascertained. The motion of all parts of the periphery of a carriage wheel are the same in relation to the axle, but they are not the same relatively to the surface of the earth; the upper portion moves faster than the lower, and the rear portion faster than the front.

S. L., of N. Y.—An overpressure of heated air in a boiler will explode it just as certainly as an overpressure of steam.

## Money Received

At the Scientific American Office on account of Patent Office business, from Wednesday, September 24, to Wednesday October 1.

O. J. S., of N. Y., \$10; J. T. B., of Ill., \$15; O. S., of Ill., \$15; H. G., of Pa., \$25; E. D., of Mass., \$25; G. & H., of Ill., \$25; A. C., of N. B., \$15; O. S. G., of N. Y., \$25; B. S. & J. M., of Pa., \$25; G. A. D., of Cal., \$15; G. B. B., of Ind., \$30; W. S. E., of N. Y., \$15; W. L. C., of Iowa, \$15; A. L. F., of N. Y., \$15; J. R. D., of Mass., \$15; G. R., of N. Y., \$15; A. B., of N. Y., \$15; W. W. M., of Mo., \$60; J. E., of N. Y., \$15; G. H. R., of N. J., \$15; M. & A., of Ill., \$15; W. B., of Pa., \$20; K. & R., of Ill., \$20; J. E. C., of N. J., \$20; S. F., of Ohio, \$20; J. B. G., of Iowa, \$20; S. W. R., of Mass., \$45; C. K., of Iowa, \$20; J. De L., of N. Y., \$20; A. B. B., of Conn., G. T., of Mass., \$20; P. L., of Ind., \$20; H. H. E., of Conn., \$45; R. B., of N. Y., \$20; H. S. B., of La., \$20; J. C., of Mass., \$20; P. H., of Pa., \$45; D. W. W., of N. Y., \$20; G. B. O., of N. Y., \$60; P. L. H., of Ill., \$30; H. N., of N. Y., \$12; H. H. C., of N. Y., \$12.

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, and inform us the amount, and how it was sent, whether by mail or express.

Specifications and drawings and models belonging to parties with the following initials have been forwarded to the Patent Office from September 24 to Wednesday, October 1, 1862:—

G. B. O., of N. Y.; B. S. & J. M., of Pa.; H. C. A., of Ill.; C. E. S., of Wis.; G. and H., of Ill.; O. S. G., of N. Y.; P. L. H., of Ill.; T. N. H., of Cal.; E. D., of Mass.; H. G., of Pa.; H. N., of N. Y.; H. H. C., of N. Y.; G. B. B., of N. Y.

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