cation for a patent is reduced from \$30 down to \$15. Other changes

i ees are also made as iollows —	
filing each Caveat	\$10
fling each application for a Patent, excep	ot for a design \$15
n issuing each original Patent	\$20
appeal to Commissioner of Patents	
application for Re-issue	
application for Extension of Patent	\$50
granting the Extension	\$50
filing a Disclaimer	\$10
fling application for Design, three and	a half waars \$10
filing application for Design, seven year	415
filing application for design, fourteen year	200
and appropriently design, fourteen ye	

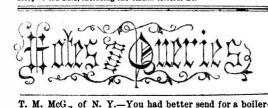
olishes discrimination in fees required of foreigners, ex cepting natives of such countries as discriminate against citizens of the United States—thus allowing Austrian, French, Belgian, English, United States—thus allowing Austrian, French, Belgian, English sian, Spanish and all other foreigners except the Canadians, t Aussian, Spanish and all other foreigners except the Canadans, to enjoy all the privileges of our patent system (but in cases of de-signs) on the above terms. Foreigners cannot secure their in ventions by filing a caveat; to citizens only is this privilege acco

During the last seventeen years, the business of procuring Pa for new inventions in the United States and all foreign countries has been conducted by Messrs. MUNN & CO., in connection with publication of the SCIENTIFIC AMERICAN; and as an evidence the confidence reposed in our Agency by the inventors through the country, we would state that we have acted as agents for at least TWENTY 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 on the state of whom we have taken out patents have addressed to us most flatter ing testimonials for the services we have rendered them, and the alth which has inured to the inventors whose patents were secured through this office, and afterward illustrated in the SCIEN-TIFIC 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.

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 ents, &c. Our success in the prosecution of rejected cas The principal portion of our charge is generally left dependent upon the final result.

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



- T. M. McG., of N. Y.—You had better send for a boiler makerand have him examine your furnace. He can tell betterthan we can, at this distance, what you require.
- P. S., of Maine.-You should be very careful and have all ejoints of your condenser air-tight. Take a lighted lamp and id it up to suspected parts, and if the flame is forced in by the atmospheric pressure you may be sure that your vacuum will be
- H. W., of Conn.—Albata is a name given to an alloy of nickel, and it is employed for making inferior tea-spoons, to imitate silver It is composed of copper, 15 parts; nickel, 5 parts; zinc, 5 parts.
- H. W., of N. Y .- The amount of grate surface required in a boiler depends entirely upon the draft. In a locomotive, for six inches square of grate surface the evaporation is one of foot of water per hour—one horse-power. In stationary and rine engines one square foot of grate surface is allowed for each horse-power.
- J. W., of N. Y .- All soaps are not suitable for washing. Lime water and olive oil form an insoluble soap totally unfit for washing purposes. A caustic alkali is necessary for the manufacture of washing soap ; soda makes a hard and potash a soft soap with grease or oil.
- G. A. F., of Ohio.-We have never heard that any European Government has offered a reward for the invention of an auger
- Y. and A., of Cal.—Bound volumes of the Scientific MERICAN, if sent to you by mail, will cost three dollars per volume
- E. C. E., of Ohio. We have carefully examined the sketch of your alleged improvement in projectiles, and it is a singular fact that within the past three weeks we have received, from an Amer ican citizen in China, the same thing. We think well of the plan uld like to see it thoroughly tried
- S. L. M., of Conn.-We cannot tell you when wooder screws were first made in this country. They are extensively manufactured in Providence, $R.\ I.$
- D.D. & Co., of Pa.—We do not sell the blind slat tenon ing machine to which you refer. You had better write to S. C. Hill, No. 12 Platt street, this city, in regard to it. We do not deal in any
- J. B., of Pa.—Take your piston out and scrape the rings steam tight; that is better than to grind them in with emery. The latter substance gets in the pores of the iron and frequently ruins
- F. D. D., of Ohio.—The old papers to which you refer will be of no value to us. In reference to marbleizing the front of the bett invalue out. In federate or matter, the first state of the building to which you refer, we can furnish you with no receipt for preparing a stucco which shall imitate marble. The imitation is produced on the face of the stucco by the skillful use of paint. It eds a practiced hand to do it properly.
- S. K. S., of Pa.—The Canadian Patent Bill to which we referred does not contemplate the granting of patents to those who have already secured them in this country. We fear the bill will not pass this season as Parliament is prorogued in consequence of the defeat of the ministry.

- J. W., of Pa.—Picric acid is obtained by treating phenole with strong nitric acid. It is employed for dyeing yellow on silk first impregnating the silk with alum, then immersing it for a sl period in a solution of the picric acid. An admixture of picric acid and indigo forms a beautiful green color on silk.
- R. McC., of C. W.—Gutta-percha or india-rubber cement is well adapted for stopping leaks in the floors of piazzas, roofs, &c. but if you cover it with a coat of oil paint it will become soft and mix with the paint, as the oil dissolves the gutta-percha.
- J. R. K., of Ohio.—We do not know what is the best ode of swinging horses, but perhaps some of our readers may be able to inform you. We think such horses ought to be hund by the neck. The cost of binding the Scientific American is
- T. H., of Pa.-Innumerable plans of aerial ships have been sent to us, which, like yours, we have not thought proper to notice. It will afford us pleasure to record the voyage of the first
- J. B. S., of Mass.—We have never seen the photograph of a cannon ball taken while in motion, but we have seen a great many such balls in the pictures of battle scenes. Great allowance must be made for the remarkable visionary powers of the artists
- S. V., of Mass.—The Bramah press is called the hydrostatic (not hydraulic) press, because it operates by the pressure of
- C. H. C., of Conn.-Some Jonval turbine wheels have given out more power with the same quantity of water than overshot wheels. You will find full information respecting trials to test the power of turbine wheels on page 164, current volume of the
- J. H. W., of Ohio.—Common hydraulic cement will stop ur aquarium; so will a cement of molten pite
- A. H. N., of Ind .- If your patent does not cover all that you desire and have a right now to claim, you can surrender the original patent and obtain a re-issue. You cannot claim under an plication for a re-issue what is not already contained in your odelin the Patent Office. Our pamphlet, a copy of which we will send you, explains the subject of re-issue.
- R. M., of Ohio.—If you use Giffard's injector you will not require any feed-pump
- R. H. J., of Iowa.—If you have invented a convenient power which can be economically used for driving sewing machines, churn machines, washing machines, &c., we think it would find a ready sale, as such an apparatus is much wanted. In the absence of a suitable description of it, we can express no opinion respecting
- M. P. & Co., of Conn.—The specimen of your mode of addressing newspapers seems to be an improvement over the method now in use for that purpose, and if the apparatus is simple it will meet approval. We shall be glad to see the machine in oper nand for labor-saving machinery of all kinds be increased in proportion as men are drawn from industrial pur suits into the military service.

Money Received

At the Scientific American Office, on account of Patent Office business, from Wednesday, May 13, to Wednesday, May 20,

L. B., of N. J., \$25; V. D., of Pa., \$50; J. A. & L. Van R., of N.Y. L. B., of N. J., \$25; V. D., of Pa., \$50; J. A. & L. Van R., of N. Y., \$36; T. O., of Mass., \$100; G. R. J., of N. Y., \$49; R. K., of Mass., \$20; H. Van DeW.. of Mass., \$20; D. D., of N. Y., \$20; J. A. W., of Wis., \$20; A. & W., of N. Y., \$16; G. W. L., of N. J., \$47; S. M. B. of N. Y., \$16; A. J. G., of Mass., \$39; M. H. S., of N. Y., \$20; G. P. H., of N. Y., \$20; J. B., of Ill., \$16; J. H. A., of Mich., \$15; S. D. G., of N. Y., \$25; R. P. P., of N. J., \$25; A. W., of N. Y., \$100; G. H. F. of N. Y., \$10, A. S., of Ill., \$16; L. M., of N. Y., \$20; M. & K., of Ill., \$16; L. M., of N., of N., \$20; L. of N. Y., \$20; R. F. I. F., of N. S., \$22; A. W., of N. Y., \$100; G. H. F., \$100; G. H. F., \$10; A. C., of Pa., \$35; W. F., of Mo., \$25; G. H. D., of N. Y., \$15; L. & W., of N. Y., \$250; C. W. S., of N. Y., \$250; O. P., of Yt., \$25; E. H. J., of Ohlo, \$25; L. J., of France, \$25; J. B., of N. Y., \$29; J. J. D., of N. Y., \$30; L. C., of N. Y., \$25; J. B., of N. Y., \$29; J. T. H., of N. Y., \$20; E. H., or Mass., \$20; H. T., of N. J., \$45; S. J. S., of N. Y., \$20; R. Q., of N. Y., \$41; A. H. P., of Iowa, \$20; G. H. R., of N. Y., \$16; R. & W. K., of Mass., \$44; H. W. B., of Ohlo, \$63; M. A. D., of Mich., \$20; A. & B., of N. Y., \$10; A. B., of V., \$16; M. M. & Co., of Ind., \$30; G.M., of N. H., \$25; J. McC., of N.Y., \$28; J. W. K., of Mass., \$16; T. W., of Mass., \$30; F. W. H., of Canada, \$250; E. G. H., of Mass., \$16; W. N., of N. Y., \$29; J. G., of R. I., \$25; E. C. B., of Cal., \$50; M. A. J., of Mass., \$16; H. W., of N. Y., \$300; G. & T., of N. Y., \$373; W. B. R., of Mich., \$16; H. W., of N. Y., \$25; E. A., of N. J., \$35; L. B., of N. Y., \$25; A. F. T., of N. Y., \$45; W. M., of N. Y., \$16; W. L., of Mass., \$20; H. & S., of Pa., \$20; T. R. T., of N. Y., \$16; W. P., of N. Y., \$16; W. P., of N. Y., \$16; W. W., of Wis., \$20; T. R. T., of N. Y., \$16; W. P., of N. Y., \$16; V. W., of Wis., \$20; T. R. T., of N. Y., \$16; W. P., of N. Y., \$16; V. W., of Wis., \$20; T. R. T., of N. Y., \$16; W. P., of N. Y., \$16; V. W., of Wis., \$20; T. C. T., of N. Y., \$16; W. P., of N. Y., \$16; V. W., of Wis., \$20; T. C. T., of N. Y., \$16; W. P., of N. Y., \$16; V. W., of Wis., \$20; T. C. T., of N. Y., \$16; W. P., of N. Y., \$16; V. W., of Wis., \$20; T. C. T., of N. Y., \$16; W. P., of N. Y., \$16; W. W., of Wis., \$20; T. C. T., of N. Y., \$16; W. P., of N. Y., \$16; W. W., of Wis., \$20; T. C. T., of N. Y., \$16; W. P., of N. Y., \$16; W. W., of Wis., \$20; T. C. T., of N. Y., \$16; W. P., of N. Y., \$16; W. W., of Wis., \$20; T. C. T., of N. Y., \$16; W. P., of N. Y., \$16; W. W., of Wis., \$20; T. C. T., of N. Y., \$16; W. P., of N. Y., \$16; W. W., of Wis S., of Pa., \$20; T. R. T., of N. Y., \$16; W. P., of N. Y., \$16; V. & W., of Wis., \$20; G. T., of N. Y., \$16; W. H., of Iowa, \$16; G. H. M., of Ind., \$15; S. F. L., of Wis., \$20; S. M. & Bros., of Pa., \$20; A. S. L.. of N. Y., \$372; C. R., of Mich., \$15; G. L., of N. J., \$25; D. R., of N. Y., \$25; J. & J., of Mich., \$16; A. C. T., of N. Y., \$25; A. J. A., of Ill., \$16; J. V. D., & Co., of Va., \$25; Z. S., of Wis., \$30; G. R. B., of R. I., \$16; E. P. H., of Mass., \$16; B. L., of Vt., \$35.

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 in-form us the amount, and how it was sent, whether by mail or ex

Specifications and drawings and models belonging to

parties with the following initials have been forwarded to the Patent Office from Wednesday, May 13, to Wednesday, May 20, 1863:—
L. B., of N. J.; J. B., of N. Y.; E. A., of N. Y.; V. D., of Pa. (2 cases); J. J. D., of N. Y.; L. B., of N. Y.; J. A., & L. Van R., of N. Y.; L. C., of N. Y.; B. and B., of N. Y.; R. Q., of N. Y.; R. and W. K., of Mass.; A. J. G., of Mass.; O. P., of Vt.; H. and R., of Ohio; J. G., of R. I.; T. and S., of N. Y.; W. F., of Mo.; O. N., of N. Y.; G. H., of N. Y.; E. H. J., of Ill; J. and S., of Wis.; A. C., of Pa.; J. C., of Ohio; J. D. P., of N. J.; G. M., of N. H.; S. F. L., of Wis.; S. G., of N. Y.; J. McC., of N. Y.; D. M., of Ind.; H. W., of N. Y.; G. L., of N. J.; L. J., of France; B. L., of Vt.; M. and K., of Ill; T W., of Mass.; D. R., of N. Y.

RATES OF ADVERTISING

Twenty-five Cents per line for each and every insert ble in advance. To enable all to understand how to compute the amount they must send in when they wish advertisements inserted, we will action that ten words average one line. Engravings will not be admitted into our advertising columns; and, as heretafore, the publishers reserve to themselves the right to reject any advertisement they

DUSSAUCE ON COAL-TAR COLORS.—JUST PUB-Far: their President on the Coloring Matter desired.

DUSSAUCE ON COAL-TAR COLORS.—JUST PUBTar; their Practical Application in Dyeing Cotton, Wool and Silk; the
Principles of the Art of Dyeing and of the Disculation of Goal Tar;
with a Description of the most important New Dyes now in use. By
Professor H. Dussauce. Chemist, 12mo, \$2.50.
Contents:—Historical Notice of the Art of Dyeing; Chemical Principles of the Art of Dyeing; Preliminary Preparation of Stuffs; Mordants; Dyeing; On the Coloring Matters produced by Coal Tar; Distillation of Coal Tar; History of Aniline; Properties of Aniline; Preparation of Aniline directly from Coal Tar, Artificial Preparation of
Aniline; Preparation of Benzole; Properties of Benzole; Preparation of Aniline directly from Coal Tar, Artificial Preparation of
Aniline; Preparation of Benzole; Properties of Benzole; Preparation of Miro-henzole; Transformation of Nitro-benzole into Aniline
by means of Sulphate of Ammonium, by Nascent Hydrogen, by Acetate of Iron and by Arzentie of Potash; Properties of the Bi-nitrohenzole: Aniline Purple; Violine; Rosselne; Emeraldine; Bleu de
Paris; Futschine or Magenta; Coloring Matters obtained by other
Bases from Coal Tar; Nitroso-phenyline; Di-nitro-aniline; Nitrohenzyline; Pieric Acid; Rossolic Acid; Quinoline; Naphthaline,
Colors; Chloroxynaphthalic and perchloroxynaphtalic Acids; Carminaphtha; Ninaphthalatune; Nitsoson Aphthaline; Naphthamein;
Tar red; Azuline; Application of Coal Tar Colors to the Art of
Dyeing and Calico Printing; Action of Light on Coloring Matters
from Coal Tar; Latest Improvements in the Art of Dyeing; Chryssammic Acid; Molybdio and Pieric Acids; Extract of Madder; Theory of the fixation of Coloring Matters in Dyeing and Printing;
Principles of the Action of the most Important Mordants; Aluminous Mordants; Ferruginous Mordants; Stauniferous Mordants; Artrificial Alzarine; Metalic Hyposuphine as Mordants; Over's Soap;
Preparation of Indigo, for Dyeing and Printing; Relative Value of
Or Aris, Rouen, Mulhouse, Ac.; to which are added the most impor-

\$3. Chemistry applied to Dyeing. By James Napier. 12mo, \$2.

ga The above, or any of my books, sent by mail free of postage.

Every reader of the Scientific American is particularly invited to send for a catalogue, which will be sent five of postage. HENRY CAREY BAIRD, Publisher of Practical and Scientific Books, 406 Walnut street, Philadelphia.

HINGMAN'S PATENT PAINT ROOF.

Adapted for all descriptions of roots and most difficult of repairing around chimneys, verandahs, &c. The superiority of this roofing over others wil appear upon an examination of the claim, which, when understood, will give assurance to those who possess skill and have had experience to guide their judgment, that a perfectly ught roof may be obtained by this method. For marine uses, as a covering for decks of vessels, &c., it will be found superior to duck, as now applied, insuring a tight deck. Send for circulars, giving method of application, which will enable any painter or intelligent mechanic to apply it. Address

B. D. WASHLUM, Taunton, Mass.

AILWAY PROPERTY—A TREATISE ON THE CONstruction and Management of Railways; designed to afford
useful knowledge, in the popular style, to the holders of this class of
property; as well as the Railway Managers, Oilcers and Agents By
John B Jervis, late Chief Engineer of the Hutson River Railroad,
Croton Aqueduot, &c. One vol. 12mo., oloth, \$150
CONTRITS:—Freface—Introduction. CONSTRUCTON—Introductory
—Land and Land Damages—Location of Line—Method of Businees—
Grading—Bridges and Culverts—Road Crossings—Balasting Track—
Cross Siepers—Chairs and Spikes—R-ils—Station Buildings—Locomotives—Conches and Cars OFERATING—Introductory—Freight—
Passengers—Engine Drivers—Repairs to Track—R-pairs of MachineThe Business—Superintendent—Supplies of Masterial—Receipts
—Disbursements—Statistics—Running Trains—Competition—FinanCall Management—General Remarks

Every reader of the Control of Machiness of Property of the Superintendent of the Super

FOR WOODWORTH'S OR DANIEL'S PLANERS AND Succeeding partner, Worcester, Mass. 22 & 25-2 & 5 Vol. 9 *

PLATINA! ALL SHAPES! FOR ALL PURPOSES, SUTTON & RAYNOR, 748 Broadway, New York.

DECK'S PATENT DROP PRESS.—ALL THE SIZES used in the manufacture of silver, brass or tinware, lamps, spoons, jeweirv. &c.; also for forging purposes, on hand or made to order, by MILO, PECK & CO., New Haven, Conn. 22 13

VALUABLE WORKS ON DRAWING, &C.—MA.
HON'S Industrial Drawing—numerous plates, with description
of drawing instruments, I vol., 8vo., \$2.50. Smith's Topographical
Drawing, I vol., 8vo., pits., \$150. Smith's Linear Perspective, I vol.
8vo., pits., \$1.50. Warren's Students', Draftsmen's and Artisans' Manual, vol., 12mo., pits., \$1.25. Ruskins' Elements of Drawing, I
vol., 75 cents. Hand-book of Oil Painting, with instructions for mits
ing colors &c., I vol., 12vo., \$1.50. Published by JOHN WILEY,
\$255 Broadway, New York. ** Copies mailed and prepaid on the reeight of the price.

N ENGINEER OF EXPERIENCE IN DESIGNING and constructing stationary and portable steam engines for ms, mills, manufactories, hoisting and other purposes and is millar with the various styles of the best makers, will furnish comten working drawings for any size or class at a fair compensation. divess Box 633, New London, Conn.

LENNIG & MITCHELL, UNION MACHINE WORKS, delphia, Pa. JOSEPH LENNIG and T. M. MITCHELL. 22 4*

COMETHING NEW! AGENTS WANTED!—OUR NEW fancy "Card Thermometer," "Hemmer & Shield" for hand sewing, "Improved Indelible Pencil" for making linen, and 10 more novel, useful and indispensable articles selling rapidly New inventions sold on commission. For circulars and terms address BICE & CO., 37 Park-row, New York, Inventors and Agents' Deopt. 231f

GENERAL ORDERS, NO. 105.

CENERAL ORDERS, NO. 105.

WAR DEPARTMENT,
ADJUTANT GENERAL'S OFFICE.
WASHINGTON, APril 28, 1863.

The organization of an Invalid Corps is hereby anthorized.
This Gorps shall consist of Companies, and, if it shall hereafter be thought best, of Battallons.
The Companies shall be made up from the following sources.viz.:
First, By taking those officers and enlisted men of commands now in the field (whether actually present or temporarily absent) who. from wounds received in action or disease contracted in the line of duty, are unfit for field service, but are still capable of effective garrison duty, or such other light duty as may be required of an Invalid Corps. Regimental Commanders shall at once make out, from information received from their Medical and Company Officers, and and from their own knowledge, rolls (according to the Form furnished) of the names of all the officers and enlisted men under their commands who fulfill the following conditions, viz.:

1. That they are unfit for active field service on account of wounds or disease contracted in the line of duty: this fact being certified by a Medical Officer in the service, after personal examination.

2. That they are fit for garrison duty: this fact being likewise certified by the Medical Cflicer, as above, after personal examination.

3. That they are, in the opinion of their Commanding Officers, meritorious and deserving.

These rolls shall be certified by the Examining Surgeon and Regi-

2. That they are, in the opinion of their Commanding Officers, meritorious and deserving.

These rolls shall be certified by the Examining Surgeon and Regimental Commander, and transmitted, through the regular channels of military correspondence, to the Provost Marshal General of the

These rolls shall be certified by the Examining Surgeon and Regimental Commander, and transmitted, through the regular channels of military correspondence, to the Provost Marshal General of the United States.

The Regimental Commander shall enter in the column of remarks opposite each officer's name on the roll, a statement as to the general character of the officer for intelligence, industry, sobriety and attention to duty; and all intermediate Commanders shall endorse there on such facts as they may possess in the case, or, if they have none, they shall state how far they are willing to endorse the opinion of the officer of officers making the recommendation. Similar rolls shall be forwarded from time to time, whenever the number of men fulfilling the conditions enumerated or the exigencies of the service may render it expedient.

Second, By taking those officers and enlisted men still in the service and borne on the rolls, but who are absent from duty, in Hospitals or Convalescent Camps, or are otherwise under the control of Medical Officers. In these cases the Medical Officer in attendance shall prepare the rolls according to Form, entering the names of officers and men from the same Regiment on a roll by themselves, and send them, with the certificate or the Surgeon, duty signed, to the present camps, cause the fedinant of the certificate of the Surgeon, duty signed, to the process of the Regimental Commander, who will forward them, as in point of character to continue in the conditions and requirements. If, in any case, the Regimental Commander, who will forward them, as hope the one of the Regimental Commander, who will forward them, as hope the one of the condition of t

of an archesisted the United States through the officer detailed as Ading Assisted To rovost Marshal General of the State No application of this kind will be considered unless the following conditions are completely fulfilled:—

1. That the applicant produce the certificate of the Surgeon of the Board of Enrollment for the District in which he resides, that he is unit for active field duly an account of wounds or disease, and is not like to draft, but is fir for garrison duly.

2. That he furnish evidence of an honorable discharge on account of wounds or drashlity contracted in the line of duly.

3. That he produce recommendations from the Regimental, Brigade and Division Commanders under whom he formerly served, that he is worthy of being thus provided for and capable of returning adequate service to the Government. In case it shall be impracticable to get this last evidence, he may, having established the first two points above, satisfy the Board of Eurollment that he is deserving, and present its certificate of the fact. This evidence must all be obtained by the application and must be transmitted with his application for appointment.

1. If there be no Acting Assistant Provost Marshal General for the State, the application may be forwarded through the Adjutant General of the State, who is desired to endorse thereon such lacts in the military history of the applicant as he may know, or as are afforded by his records, and torward the same to the Provost Marshal General of the United States. Enlisted men, honorably discharged on account of disability, desiring to re-emist in this Corps, will present themselves to the Board of Brollment for the District in which they reside, for examination by the Surgeon thereof, who shall examine them and report the result to the Board of Brollment.

To Buard shall then consider each case, and that the man is deserving, a that he is meritorious and deserving.

2. That he is unit for service in the field.

2. That he is unit for service in the field.

2. That he is fire forgar

order of the Secretary of War:
E. D. TOWNSEND,
Assistant Adjutant General,

\$60 A MONTH! WE WANT AGENTS AT \$60 A Orienta Burners, and thirteen other new, useful and curious articles. Fifteen Jirculars sent free. Address SHAW & CLARK, Biddeford, 21 11

FLAX, HEMP, JUTE AND MANILLA.—RICHARD KITSON, Lowell, Mass, manufacturer of needle-pointed card clothing for carding flax, hemp, jute and manilla.

PATENT OFFICE MODELS, SCIENTIFIC INSTRU-MENTS, Tools, and all kinds of small Machinery and Drawings made to order by BUETINER & KRIEG, 510 Broadway, New York.

POR SALE LOW-ONE 3,000 CUBIC-FEET GASOM-BTER and ir in tank complete, with frame, chains and counter-weights in order for shipment. Address Box 2,876, Philadelphia Post-office.

DATENT DEALERS TAKE NOTICE.—THE INVENTsheep-shears—wishes to correspond with some one that will take
an interest in them and pay all the expenses of getting them patented and have one-half the profits. Address F. VAN DOREN,
212*

\$75 A MONTH! I WANT TO HIRE AGENTS IN every county at \$75 a month, expenses paid, to sell my new cheap Family Sewing Machines. Address S. MADISON, Alfred, 21 13°

THE CELEBRATED CRAIG MICROSCOPE WILL BE mailed, prepaid, for \$2 25: with 6 beautiful mounted objects for \$3; with 24 objects for \$5, by HENRY CRAIG, 180 Center street (3d floor), New York. Liberal discount to dealers.

"The Craig Microscopes are just what they claim to be, and those who wish for such an article will not be disappointed if they should obtain one of these."—N. Y. Methodist.

19 13*

FOR SALE.—THE UNDERSIGNED OFFER FOR SALE the whole, or family, town, county and state rights of J. K. the whole, or family, town, county and state rights of J. K. 9, 10, 11, 18

Baer's patent for manufacturing wine—cheap, healthy, good keeping and very agreeable to drink. Address L. BAER, or JOHN BLATT.

NER, Highland, Madison county, Ill.

PATENTEES AND MANUFACTURERS.

The publishers of the Scientific American have just prepared, with much care, a pamphlet of information about Patents and the PatentLaws, which ought to be in the hands of every inventor and patenties, and also of maniacturers who use patented inventions. The character of this useful work will be better understood after reading the following synopsis of its contents:—
The complete Patent Law Amendment Act of 1961—Practical Instructions to Inventors, how to obtain Letters Patent, also about Models—Designs—Caveats—Trace-marks—Assignments—Revenue Tax—Extensions—Inverferences—Infringements—Appeals—Re-issues of Defective Patents—Validity of Patents—Abandoniment of Inventions—Best Mode of Introducing them—Importance of the Specification—Best Mode of Patents—What will prevent the Granting of a Patent—Patents in Canada and European Fatents—Schedule of Patent Fees; also a variety of miscellaneous items on patent law questions.

tions.

It has been the design of the publishers to not only furnish, in convenient form for preservation, a synopsis of the PATENT LAW and PRACTICS, but also to answer a great variety of questions which have been put to them from time to time during their practice of upward of exemteen years, which replies are not accessible in any other form The publishers will promptly forward the pamphlet by mail, on recipt of six cents in postage stamps.

Address MUNN & CO., Publishers of the Scientific American No. 37 Park Row, New York.

ge stamps.
Publishers of the Scientific American,
9

WOOD-WORKING MACHINERY, DESIGNED FOR the manufacture of cars, carriages, assh. blinds, doors, moldings, patterns, plano-forte and cabinet work, agricultural implements, packing boxes, lumber, &c. Made by RICHARDSON, MERIAM CO., Worcester, Mass

BUREAU OF ORDNANCE.

BUREAU OF ORDNANCE.

Washington City, April 1, 1863.}

This Bureau is desirous of ascertaining whether rified cannon can be made of wrought iron of sufficient and uniform exdurance and economy to warrant their being preferred to guns of cast iron only, or of cast iron strengthened with vrought iron.

Proposals will therefore be received from any manufacturers of forged iron, to furnish a finished gun, or a block of metal from which the same may be finished.

The said gun, when finished, to weigh about 10.000 pounds, to be made into a gun throwing a projectile of 100 pounds, as used in cast iron rifled cannon of like weight, to be fired 1.000 times with service charges of the same weight and kind of powder as used in the Parrott 100-pounder, viz: 10 pounds of No. 7, without bursting or wearngt in such a manner as to cause apprehensions of bursting.

The quality of metal, price, and other terms, are to be stated clearly in the proposals forwarded.

The Bureau reserves the right to itself of accepting or rejecting any of the proposals.

The time for receiving the proposals is limited to sixty days from date; and proposals will only be received from persons actually engaged in the fabrication of wrought iron.

JOHN A. DAHLEGREN, Chief of Bureau.

${ m R}^{ m allroad}$ iron for sale.

United States Military Railroad Office,

250 G Street, Washington, D. C., May 12, 1863.

The undersigned will receive bids for the purchase of 938 920 2240 tuns new railroad iron, weighing 60 lbs. to the yard. 266 720-2240 tuns of the above is at the Cambria Milis, Johnstown, Pa., and the balance -672 200-2240 tuns—at Pittsburgh, Pa.

In case a bid is acrepted, the party making the same will be notified as soon as practicable. If within ten days the party shall fail to make payment, in Government funds, to the undersigned, the iron for which such bid was made will be subject to sale to any other person.

The right to reject any and all bids is expressly reserved. All bids must be sealed and directed to the undersigned at Washington, D.C., and endorsed "Bid for Railroad Iron." Bids will be received, as above invited, until June 5th, at which time a decision will be given.

21 3

JACQUARD MACHINES, WITH APPURTENANCES manufactured and put up. Looms for narrow goods, from silk ibbon to cotton tape, built to order on the most approved principles. W. P. UHLINGER, No. 1,621 North Second street, Philadelphia, Pa. 19 4*

MANUFACTURERS OF THE SPRINGFIELD MUS-KET (1855) can obtain a few thousand each of Bands, RearLeaf Sights and Side Screw Washers. Warranted to pass (overnment in-spection. Apply to W. T. NICHOLSON & CO., Providence, R. I.

READER, IF YOU WANT EMPLOYMENT, OR WANT the best (two-threaded) Sawing Machine ever manufactured, send to ISAAC HALE, JR., & CO., Newburyport, Mass., for a descriptive circular of terms, &c. They pay a liberal salary, or allow commission, as the agent may choose.

TERVOUS DISEASES AND PHYSICAL DEBILITY, arising from Specific causes, in both sexes—new and reliable treatment, in Reports of the Howard Association—sent in sealed letter euvelpes, free of charge. Address Dr. J. SKILLIN HOUGHTON, Howard Association, No. 2 South Ninth street, Philadel phin.

TOR SALE.—TWO CYLINDER BOILERS, 30 INCHES in diameter, 30 feet long and in good order, now in use by the West Haven Buckle Company in West Haven, Conn., which are soon to be replaced by larger ones. For particulars inquire of WILLISTON, KNIGHT & CO., 36 Chambers street, New York, or at the office of the Company.

DAMPER REGULATORS.—GUARANTEED TO Effect a great saving in fuel, and give the most perfect regularity of power. For sale by the subscribers, who have established their exclusive right to manufacture damper regulators, using disphragms or flexible vessels of any kind. Orders promptly attended to, or in formation given, by addressing Clark's Patent Stram and Firm Regulator Company, No. 5 Park Place, New York.

Responsible agents wanted.

Look just published. Send four stamps (12 cents), and procure a sepecimen copy, and agency. Agents wanted everywhere to solled orders. Address HARRIS BRO'S, Box 302, Boston, Mass. 17 tf

BOLTS, NUTS AND WASHERS OF ALL SIZES CON stantly on hand for sale by LEACH BROTHERS, 85 Literty 10 18*

WOODWORTH PLANERS—IRON FRAMES TO PLANE
18 to 24 inches wide, at \$90 to \$110. For sale by S. C. HILLS,
No. 12 Platt-street, New York.

PRISTOL'S ANTI-FRICTION SLIDE VALVE MAY be put in place of any ordinary one; is self-fitting, requiring but little power to move it, very little lubrication is needed, and it used without any, cannot cut its face or seat, and will last as long as the engine upon which it is placed. It is in use on all sizes of engines, including several large ones of the United States Navy. Apply to R. C. BKINTOL, Chicago, Ill.

SCHOOL FOR DISTILLERS-PARTNER WANTED. —The advertiser desires to establish a small model distillery upon the plan and principles indicated in his art cles published in Nos. 9, 10, 11, 12, 13 and 14, current volume of SCIENTIFIC AMERICAN, file can secure the co-operation of some gentleman possessing a sufficient capital. Address L. SMITH, 15 North Maine street, St. Louis, Mo. 22 46

A VALUABLE WORK FOR INVENTORS, 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 SCIENTI-FIC AMERICAN on payment of a reasonable charge for the engra-

the party for whom they are executed as soon as they have been uses. 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 pre-sented for publication. And it is not our desire to receiveorders for engraving and publishing any but good Inventions or Machines, and such as do not meet our approhation in this respect, we shall decline

MUNN & CO.

Publishers of the SCIENTIFIC AMERICAN.

FAN BLOWERS—DIMPFEL'S, ALDEN'S, McKENZIE'S and others, for Steamboats, Iron Works, Founderies, Smith Shops, Jewelers, &c., on hand for sale by LEACH BROTHERS, 86 Liberty street, New York.

UN SCREWS! GUN SCREWS!!—THE SUBSCRI-they will warrant to fit "Springfield" Gages. They also solicitorders for gun screws to fit other gages. Samples can be seen at our store, No. 74 Beekman street. New York. FELLOWS, HOFFMAN & CO. 12 12*

TRON PLANERS, ENGINE LATHES, DRILLS AND other machinists' tools, also three and four spindle Drills of superior quality, on hand and fluishing, for sale low. For description and price address NEW HAVEN MANUFACTURING COMPANY, New Haven, Conn.

TO PERSONS ENGAGED IN MANUFACTURING ARTICLES used in Woolen Mills.—I desire to obtain the address of all persons engaged in manufacturing articles used in Woolen Mills, such as Reed-makers, Shuttle-makers, Bibbin-makers, Picker-makers, Comb-makers, Ac: also manufacturers of Patent Oil-cans, Patent Emples, Patent Heddles and all other patented articles used or connected with Woolen Mills. Parties interested please take notice and send their businers card to THOMAS STIBBS, Dealer in Manufacturers' Supplies, Wooster, Ohlo.*

VALUABLE DOCK PROPERTY FOR SALE.—THE subscriber offers for sale a valuable plot of ground on Newtown Creek, near Penny Bridge, in the city of Brooklyn. The property is very desirably situated in the Seventeenth Ward, Meeker avenue, great thoroughfare, forming the southerly boundary of the premix A valuable dock privilege of over 400 feeton Newtown Creek, rend the property very desirable for large manufacturing or storage poses. Vessels of six or eight feet draft can navigate the creek a tide, and of much greater capacity at high water. The uplan water privilege comprise about nineteen acres, and will be sol cheap, and the terms of payment made liberal. For furthery lars, address J. B. BULLOCK, attorney for the owners, No. 3' street, New York.

TO PHOTOGRAPHERS.—IMPROVED PHOTO Camera, Patented March 25, 1862, by A. B. WILSON (the Wheeler and Wilson Sewing Machine), adapted to all phwork; such as Landscapes, Stereoscopic Views, Carte Vighotypes, &c. Can be used by smatteurs and others frod directions. Send for a circular. Address A. B. WILSON, W. Conn.

OLID EMERY VULCANITE.—WE ARE NOW MAN facturing wheels of this remarkable substance for cutting, grining and polishing metals, that will outwest hundreds of the kind coxmonly used, and will do a much greater amount of work in the sam time, and more efficiently. All interested can see them in operation our warehouse, or circulars describing them will be furnished by main NEW YORK BELTING AND PACKING CO.,

14 15 Nos. 37 and 38 Park-row, New Yor

GUILD & GARRISON'S CELEBRATED STEA.

Pumps—Adapted to every variety of pumping. The princip styles are the Direct Action Excelsior Steam Pump, the impro Balance Wheel Pump, Dupler Vacuum and Steam Pumps, and Water Propeller, an entirely new invention for pumping large quatities at a light lift. For sale at Nos. 55 and 57 First street, Whilliamsburgh, and No. 74 Beekman street, New York.

1 tf GUILD, GARRISON & CO.

MACHINE BELTING, STEAM PACKING, ENGINE
HOSE.—The superiority of these articles, manufactured of vul.
canized rubber, is established. Every belt will be warranted superior
to leather, at one-third less price. The Steam Packing is made in every
variety, and warranted to stand 300 degs. of heat The Hose neverneeds
colling, and is warranted to stand any required pressure; together wit
all varieties of rubber adapted to mechanical purposes. Directions, prices
&c., can be obtained by mail or otherwise at our warehouse. NEW
YORK BELTING AND PACKING COMPANY
JOHN H. CHEEVER, Treasurer,
14 18
Nos. 37 and 38 Park-row New York.

Pa. PARK BROTHER & CO., manufacturers of best quality Retined Cast Steel, square, flat and octagon, of all sizes. Warranted equal to any imported or manufactured in this country. Office and Warchouse, Nos. 149 and 151 First street, and 120 and 122 Second street, Pittsburgh, Pa.

PORTABLE STEAM ENGINES—COMBINING THE maximum of efficiency, durability and economy with the minimum of weight and price. They are widely and favorably known, more than 200 being in use. All warranted satisfactory or no sale. A large stock on hand ready for immediate application. Descriptive circulars sent on application. Address J. C. HOADLEY, Lawrence, Mass. 14 18

Bur Beachtung für deutsche Erfinder.

Die Interzeichneten haben eine Anleitung, die Erfinder. Die Interzeichneten baben eine Anleitung, die Erfindern bas Berhalten angibt, um fich ihre Patente zu sichern, herausgegeben, und verabsolgen soldte gratts an dieselben. Erinter, welche nicht mit ber englischen Sprache bekannt find, tönnen ihre Mitischiungen in der deutschen Sprache maden. Sizzen von Erfindungen mit turzen, beutlich geschriebenen Beichreibungen bestebe man zu abbresstren an Auf ber Office wird beutich gesprochen.
Dafelbit ift an nahem

Dafelbft ift ju baben :

Die Vatent-Gelehe der Fereinigten Staaten.

nebft ben Regein und ber Geschäftsordnung ber Patent. fice und Anleitungen für ben Erfinder, um sich Patente zu fichern, in ten Per. St. sowohl als in Europa. Gerner Auszuge aus ben Patent Gesen fremder ganber und barauf bezugliche bratbischiage; ebenfalls nuglie Minte fin Erfinder und folche, welche patentiren wollen.
Preis 20 Cts., per Don 25 Cts.

Improved Seed Drill.

Herewith we illustrate a novel, and it would appear an effective seeding machine. It consists of the frame, A, supported on the wheels, B, and the cultivator teeth, C, behind. The main axle forward has a pulley, C', on it, which carries a band passing over the seeding apparatus contained in the box, D. At E may be seen a pulley attached to the gooseneck, F, and connected with the lever, G, by forked jaws. Fig. 2, shows the arrangement of the seeding device which is as follows: The box, D, is provided internally with another one, H, in which the seed is have two other cases, which I shall send to you soon.

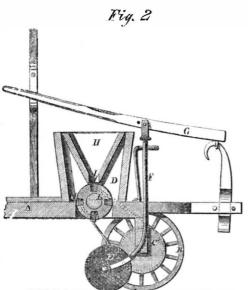
popularity of his machine, and we propose to let him tell his story in his own way :-

"Allow me to tender to you my sincere thanks for the able, skillful, and honest manner in which you conducted my business with the Patent Office. You have made for me a fortune which without your aid, would doubtless never have been realized. I shall not fail to recommend your most excellent paper. the Scientific American, to all with whom I associate, and I would direct every poor disappointed inventor to your Agency as the star of his hope. I

UNDERWOOD'S PATENT SEED DRILL.

Fig. 1

quare openings, I, which communicate with A cells, J, in the cylinder, K. The operation ollows: When the team is started, the seeding .uder revolves by the action of the belt upon it; each cell passes the aperture, a certain quantity i grain falls into it which is deposited on the ground as the machine advances. The cultivator th following behind, cover the seed in. When



the machine turns a corner at the end of the field, the seeding device is thrown out of gear by the ever, G. By bearing down upon the end near the driver the weight of the machine is thrown on the wheel, E, and the machine can then be turned around and another row planted. The teeth may be of any desired form. In the engraving the machine is shown ready to turn.

The inventor has-far more graphically than we

d. In the bottom of this box there are | My machine takes like 'hot cakes' wherever it has been introduced."

This invention was patented on Oct. 21, 1862; further information may be had by addressing the patentee, J. A. Underwood, Oskaloosa, Iowa.

The Great West.

In the last ten years there have been built at the West 3,656 miles of railroad, at a cost of \$254,720, 364, mostly by Eastern or imported capital. The Illinois Central Railroad Company alone sent into Illinois \$30,000,000, and built a road which enabled the Federal Government to sell \$11,000,000 worth of land, and the company to sell \$20,000,000 more to actual settlers, making over \$61,000,000 concentrated in that State by the operations of one company. The chief effect of this has been to swell the aggregate receipts of grain at Chicago, during the ten years to 158,544,554 bushels, which, at an average price of 66 cents per bushel (the value for 1860 at Chicago), would be worth \$126,000,000, thus exceeding by \$31,000,000 the cost of the railroads, through the agency of which the grain was made available. In 1861 the quantity of grain increased to 47,697,-409 bushels; the Southern route being closed, and in 1862 the amount was 60,150,390 bushels. These figures but indicate the extent of that prosperity which has developed so rapidly during the last ten years in the northern sections of the West.

Current Rates of Wages.

The exorbitant prices of food and all the necessaries of life have caused a corresponding advance in the amount of wages paid to the working classes. Very many strikes and combinations have taken place and are still going forward, urged by all the zeal which the malcontents possess. We are not of those who foresee any special permanent advantages likely to accrue to Workingmen's Societies as they have always been conducted in this country; but we hope sincerely that all who are in want will have their necessities looked into and their demands comcould do it-spoken in the following terms of the plied with, provided that they are not unreasonable.

Machinists in this city are now receiving from 30 to 50 cents more per day than before the inflated prices of living came in. Blacksmiths are receiving from 40 to 60 cents more per day; boiler-makers the same; ship-carpenters about the same, and in fact nearly every trade has had its standard of pay much increased of late, as is right and proper under the

W. H. GOODHUE, U. S. Vice Consul at Zanzibar, reports that the expedition of Captains Speke and Grant, in search of the sources of the Nile, has resulted in the discovery of the Mirerango river—the first certain leading branch of the Nile-which takes its rise in Lake Victoria Majanza, a lake discovered by Captain Speke while engaged in another expedition of African discovery a few years since.



SCIENTIFIC AMERICAN. THE BEST MECHANICAL PAPER IN THE WORLD.

NINETEENTH YEAR!

VOLUME VIII.—NEW SERIES.

The publishers of this popular and cheap illustrated newspaper beg incethaton the third day of January, 1869, a new commenced. The journal is still issued in the same form and size as heretofore, and it is the aim of the publishers to render the contents of each successive number more attractive and useful than any of its

The SCIENTIFIC AMERICAN is devoted to the interests of Popu lar Science, the Mechanic Arts, Manufactures, Inventions, Agriculture, Commerce, and the Industrial pursuits generally, and is valuable

and instructive not only in the Workshop and Manufactory, but also in the Household, the Library and the Reading Room.

The SCIENTIFIC AMERICAN has the reputation, at home and abroad, of being the best weekly journal devoted to mechanical and industrial pursuits now published; and the proprietors are determined to keep up the reputation they have earned during the eighteen years they have been connected with its publication.

To the Mechanic and Manufacturer!

No person engaged in any of the mechanical of doing without the SCIENTIFIC AMERICAN. It costs but six cents per week : every number contains from six to ten engravings of new machines and inventions which cannot be found in any other p_{1,0} lication. It is an established rule of the publishers to insert none but al engravings, and those of the first class in the art, drawn and ngraved by experienced artists, under their own supervision, ex-

Chemists, Architects, Millwrights and Farmers!

The SCIENTIFIC AMERICAN will be found a most useful journal o them. All the new discoveries in the science of chemistry are given in its columns, and the interests of the architect and carpenter are not werlooked; all the new inventions and discoveries appertaining to hose pursuits being published from week to week. Useful and practical information pertaining to the interests of millwrights and millowners will be found published in the SCIENTIFIC AMERICAN, which information they cannot possibly obtain from any other source. Subjects in which planters and farmers are interested will be found discussed in the SCHMTIFIC AMERICAN; most of the improvements in agricultural implements being filustrated in its columns.

To the Inventor!

The SCIENTIFIC AMERICAN is indispensable to every inventor as it not only contains illustrated descriptions of nearly all the best inventions as they come, but each number contains an Official List of the Claims of all the Patents issued from the United States Patent Office during the week previous; thus giving a correct history of the progress of inventions in this country. We are also receiving, every week, the best scientific journals of Great Britain, France and Germany; thus placing in our possession all that is transpiring in me-chanical science and art in those old countries. We shall continue to transfer to our columns copious extracts from those journals of whatver we may deem of interest to our readers.

TERMS.

To mail subscribers :- Three Dollars a Year, or One Dollar for four onths. One Dollar and Fifty Cents pay for one complete vol 416 pages; two volumes comprise one year. A new volume comnced on the third of January, 1863.

Five Copies, for Six Months	\$6-
Ten Copies, forSix Months	12
Ten Copies, for Twelve Moaths	23
Fifteen Copies, for Twelve Months	34
Twenty Copies, for Twelve Months	40

or all clubs of Twenty and over the yearly subscription is only \$2 00. Names can be sent in at different times and from different Post-offices. Specimen copies will be sent gratis to any part of the Western and Canadian money or Post-office stamps taken at par-

for subscriptions. Canadian subscribers will please to remit 25 cents extra en each year's subscription to pre-pay postage.

MUNN & CO., Publishers, Park Row, New York.

FROM THE STEAM PRESS OF JOHN A BRAY