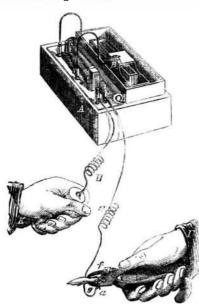
Scientific American.

Extracting Teeth by Electricity.

The following description, which we extract from the London Engineer, is of an American invention which has been patented recently in England, communicated through Messrs. Newton & Son, of London :-

The object, says the patentee, is to mitigate the severity of the operation of extracting teeth, by rendering the nerves of the teeth required to be removed insensible at the moment the forceps is being applied. The improvement consists in combining with a common dental forceps a magneto-electric machine, so that a wire from one pole of the machine shall form a metallic connection with the forceps that grasps the tooth, while the other pole of the machine is brought into connection with the patient's hand by a second wire. The handles of the forceps, which are held by the operator, are better to be insulated by being covered with gutta percha, or similar non-conducting substance.



In the illustration, A represents, in perspective view, an ordinary magneto-electric machine, with a battery, B, attached; D the ordinary dental forceps. A wire, C, passes from the negative pole of the electro-magnetic machine to the point, a, of the forceps, where a close metallic connection is made. On the inner sides of the forceps, at the point, d, a small metallic cup is placed, and a small copper stem projects from the opposite sides, e, of the forceps. As the parts f and g, of the forceps close upon the tooth, where it is surrounded by the gum, an induced current from the magneto-electric machine passes through the wire. C. and across from d to e. and thus applies itself around the whole tooth in the vicinity of the nerves, and so affects the nerves as to render them temporarily insensible. The patient operated upon must hold in one of his hands the extremity of the other wire, H (which is attached to the positive pole of the machine), so as to complete the circuit through his body. I represents the hands of the operator grasping the forceps, and K the hand of the patient grasping the wire passing to the positive pole of the machine. The magneto-electric machine has a sliding rod, by which the induced current may be varied in intensity, as is well understood. The intensity of the current to be passed through the patient's tooth should be graduated by and the former need alkalies, to purify them. observing in advance how much he can con- | By submitting benzole to the action of strong veniently bear when he grasps the extremity of the wires, H and C, in each hand. A little practice will enable the dentist to determine this readily. The magneto-electric machine, A, is of the ordinary form employed for medical purposes, and consists of a battery of one cell, a primary coil, an inducing coil, a small electro-magnet for breaking and closing the circuit through the wires, C and H, and the patient's body. Any other form of magneto-electric machine may be employed.

Instead of using a little electro-magnet brake circuit in the first helix, as shown in the illustration, a clock-work brake circuit or electrotome may be used, or a rasp may be

used in connection with the aid of an assistant for breaking and closing the circuit. So also there are several forms of magneto-electric machines in which permanent magnets are used to induce, by mechanical action, a magneto-electric current in a coil surrounding a revolving soft iron armature. In all these cases the same peculiar effect on the nerve of the patient's tooth would result if either of these machines were combined with the forceps, inasmuch as they are all well known to be equivalents in applying electricity to the body for medical purposes. A direct current from the battery might also be combined with the forceps, and with the aid of an interposed brake circuit the same effect would take place, to a great degree, although the use of such a battery of the proper intensity would probably be found much more inconvenient than the magneto-electric (or, as they are sometimes called, the electro-magnetic) machines above named. So, also, instead of a metallic conductor from the magneto-electric, or other battery, the body of the operator might be employed, he taking hold of the negative pole with his left hand, and grasping the forceps with his right hand.

Tar Oils.

In the process of distilling coal to obtain oils, if the temperature of the retort is suffered to be elevated above a certain degree, a great quantity of tar passes over combined with the crude oil, and as a consequence, the more tar that is driven over, the less oil is obtained. On redistilation, some of this tar passes into the condition of oil: and this fact leads to the conclusion, that what are now called "coal oils," were obtained from tar by C. B. Mansfield, of Cambridge College, England, in 1847, in which year he secured a patent for his invention. In this patent he states that, in distilling coal tar, there are obtained " ammoniacal water, oil heavier than water (dead oil), and an oil lighter than water, also alarge quantity of naphthaline, an oil which is solid at ordinary temperature." He describes six different kinds of oil, which he manufactured from coal tar, their volatility being indicated by their boiling points.

The above oils were obtained by first distilling coal tar, and then redistilling the crude oil or naphtha which passed over, at different temperatures; the lowest degree giving off the most volatile oils-which were condensed, and kept separate. The first oil which passes over at the lowest temperature was called alliole; its boiling point was 135°; the second, benzole, boiled at 168°; the third, tolule, at 229°; the fourth, cumole, at 291°; the fifth, cymole, at 355°; and the sixth, mortule, at 500°; the latter was distilled from dead oil. All these oils with the exception of benzole, had a fcetid odor; this was removed by treating them with weak sulphuric and hydrochloric acids, to precipitate the impurities, then they were washed in clean water. They were afterwards submitted to a redistilation, in which the vapor was passed over dry lime which absorbed the moisture, and they were then obtained in a very pure state. Caustic alkalies and the bicarbonate of potash were also used to purify the oils of an acidulous character; as tar oils, like coal oils, are divided into acid and alkaline varieties; the latter oils require acids, nitric acid, in a glass vessel, then pouring it among cold water, a heavy yellow oil falls to the bottom, which when washed, has a fragrance like the oil of almonds, and is very useful for perfuming soap. By treating cymole-the heaviest oil of coal tar-with nitric acid, a fragrant oil resembling cinnamon in its odor, is obtained. The oils obtained from tar are capable of dissolving gutta-percha, india-rubber, and some resins; they are also capable of mixing with alcohol, for burning in common lamps, like a mixture of turpentine and alcohol.

Mr. Mansfield's discoveries seem to be of a very useful character, but they have had a scaphs," in seven days.

very limited application, hence we think it may be of considerable benefit to direct the attention of the public to them at this time.

To Remove Stains.

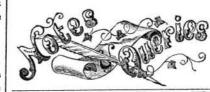
In certain books we find directions for the removal of stains by one particular process, as if all stains were removable by the same treatment. Previous to the removal of a stain, it is necessary to ascertain the nature of the material by which the stain has been caused. If by an animal or vegetable substance, chloride of lime will be most generally eligible, providing always that the tissue on which the stain exists be not itself dyed with a color removable by chlorine. Here, in this circumstance, generally lurks the difficulty. It is not a stain from a colorless tissue that has to be removed, but a stain from a tissue itself dyed and stained by colors, some of which are not dissimilar in nature to those which have to be removed. Grease stains may sometimes be most conveniently removed by turpentine; at other times by fuller's earth. Castor oil stains may be removed by spirit of wine, in which liquid that very peculiar oil is soluble; a property by taking advantage of which, castor oil may be separated from other fixed oils fraudulently or accidentally mixed with it. When paintstains occur upon woolen cloth, they can frequently be removed by no more difficult plan than by rubbing the cloth briskly with a piece of flannel. This process, however, is only successful whilst the paint is wet. If the paint has become somewhat dry, turpentine must be employed, which seldom fails to achieve the desired purpose. Most people who dabble much in chemical operations stain their apparel now and then with acid, which causes discoloration, more or or less, according to the strength and character of the acid. Oil of vitriol and spirit of salt leave red marks upon black and many other tissues. If the redness be touched with hartshorn it disappears on the instant, and provided the hartshorn has been speedily applied after the accident, the tissue usually will not suffer injury.

New Mode of Constructing Boilers.

There has recently been made at one of the railroad works in England an entirely novel boiler, that is to say, in its mode of construction, which is intended to revolutionize the present system. We condense a description extracted from a British exchange. Until very recently, it was believed that the riveted portion of the boiler was as strong as any other part of it, but the experiment of Mr. Fairbairn demonstrated that if the strength of an ordinary boiler plate was assumed to be 100, then a joint secured by a single row of rivets was equal to 56, and, if double riveted 70; in other words, if a boiler was made of plates capable of resisting 100 pounds pressure, per square inch, it would only be safe to use 56 pounds of steam in it if single riveted, 70 pounds if double riveted. The new plan is to increase the strength of the plates at this weak point of all the boilers, and instead of riveting the plates on the flat part one to the other, to bend the plates to a right angle and rivet the flanges together, thus angle irons are entirely dispensed with, and the joints instead of being the weakest are the strongest parts. The plates are rolled thicker towards the edges to admit of this, and thus strength is added in the plate itself, and an equilibrium of strength is maintained in all parts of the boiler.

A Podoscapher.

M. Ochsner, of Rotterdam, will stand on record as the first "podoscapher." These "podoscaphs" are a species of sabot, about fifteen feet long and nine inches high (or deep). Standing erect, the "podoscapher," provided with a pole flattened at the end (for paddling), and twelve feet long, can advance, turn, or recede with great swiftness in water not deeper than the length of the pole. M. Ochsner won a wager by ascending the Rhine, from Rotterdam to Cologne, in his "podo-



PERSONS who write to us, expecting replies through this column, and those who may desire to make con-tributions to it of bird interesting facts, must always observe the strict rule, viz., to furnish their names, otherwise we cannot place confidence in their com-nunications.

C., of N. Y .- The reason why a person must stand upon a stool with glass legs, to be charged with electricity from a machine, is to cut off communication with the earth, which is the great receiver of electricity. There are free currents of electricity passing between the atmosphere and the earth, and whenever this free communication is stopped we have the phenomenon of lightning, which restores the equilibrium.

J. M., of Mich.-The cost of boring artesian wells depends upon the character of the under strata-ifhard rock, it will be very great. Λ bore of three inches will discharge 360 gallons per minute easily. We are not "prospecting" for artesian well springs. In Vol. VIII. Sci. Am., we published a series of illustrated articles on

D. M. L., of Cal.-An overshot wheel working pumps will be more effective for your purpose (raising water) than a hydraulic ram; but a turbine wheel will answer your purpose equally well, and it is much cheaper than an overshot.

A. P., Jr, of Mass.-The best imitations of "stub and twist" gun barrels are made by winding thin ribbons of genuine twist around gas-tubing. A partial imitation is made by acids, in browning the barrels. Different makers of rifles and fowling-pieces employ different proportions of bore and length of barrel; no definite rule is followed. To prevent iron from scaling while being "case-hardened," use a paste to cover it composed of flour mixed with the prussiate of potash The iron in ships is prevented from rusting by paint-

J. McM., of Ky. - The latent heat in steam is necessary to maintain it in that state, otherwise it will condense. You cannot, as you suppose, use the latent heat of steam, by conduction, for any purpose without condensation. The latent heat is taken up in the expansion of the water, and occupies a greater space, hence it is not sensible. The theory is very simple.

S. B. L., of N. Y .- There is no instrument used for testing the strength of vinegar except a hydrometer; but it is valueless in regard to determining its purity, which is the most important consideration, as it is often adulterated. There is no work known to us on the vinegar manufacture.

R. S. B., of Mich.-If the article itself cannot be stamped with the date of the patent—as would be the case with artificial teeth-it would meet the requirements of the law to put the date conspicuously upon the packages containing them.

C. F., of Conn.—There is no special composition used for preventing long thin steel tools from becoming crooked during the hardening process; nor do we believe any composition can effect this object, which is strictly a mechanical result.

W. F. W., of Philadelphia.—Flannel is the best

filteringmedium for gum mucilage known to us. When it becomes saturated, it can easily be cleaned by washing in hot water.

D. H. M., of Ohio.-Your article on beams and girders is necessarily delayed to prepare the diagrams. G. II. & II. S., of Iowa.—We do not know anything about the party to whom you refer, and would not advise you to intrust your patent papers in his possession. We thank you for the fine list of names you send us.

chase the hollow mandrel for turning.

formation regarding the sub-Alpine tunnel in the London Atheneum of the second week in October last.

W. C., of N. Y .- In Arnott's Physics you will find tables of the heat developed by air undergoing com-

H. A. S., of Vt .- The light to which you refer as having been exhibited at Albany, is the same, we believe, as that we have previously described.

B. T. M., of Mass.—We have been informed that one

ounce of alum dissolved in six ounces of hot water, to which is added one ounce of sulphuric acid, makes the "dead dip" for brass to which you refer. The brass after dipping must be washed in hot rain water, then dried in warm clean sawdust. The above proportions

will answer for any amount of liquor. D. B. W., of N. Y.—Mr. P.'s paper is regularly mailed to Wayland Depot, Steuben county, N. Y., and if he does not get it, the fault is due to the thieving propensity of some one. We can account for its failure to reach him in no other way. We can have no possible design in withholding it; and we find his name entered on our books as clear as day. Commonstarch paste is employed in binding books; but lac varaish is

put on the leather and the cloth covers of some books. the mails. &c., through a tubular railroad, by atmospheric pressure, is quite old. You will find one described and illustrated on page 265, Vol. VIII., Scr.

R. T. K., of Philadelphia.-Could you not give us some positive data in establishing your theory of ocean currents being the cause of earth electric currents and variations of the compass." The variations of this instrument take place in situations far removed from the sea. This would militate against your theory.

G.A.S., of N. Y .- There is nothing in the English law in reference to putting patented articles on sale within certain specified limits. The decision in the sewing machine case at Hartford was in favor of the plaintiffs-Messrs. Wheeler & Potter. By referring to

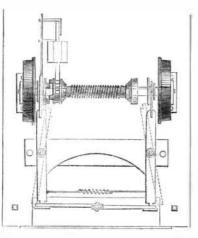
Scientific American.

No. 2, present volume of the Sci. Am., you will find a statement of this case which will enlighten you upon the question at issue. It would be neither right nor proper in us to impute bad motives to the judge who decided the case. If injustice has been done to any of the parties, it can be remedied before the Supreme Court at Washington.

J. E. R., of Md.-From your description we cannot satisfy ourselves of the cause of the explosion of your boiler. The crystalline burned appearance of the flue would lead us to infer that the metal had been red-hot on some prior occasion, and having been suddenly cooled, its tenacity was destroyed. The fines of boilers

should never be allowed to cool such tenly.

CAR BRAKES AND STARTERS—We are continually receiving letters on this subject: some of them asking us whether there has ever been an invention which saved the power lost in stopping, so that it could be used to aid in starting, and others, again, suggesting the utility of such a device. To afford all the information in our power on the subject, we engrave the underpart of a



car, having an invention for this purpose attached. The inventoris Robert Grant, and it was patented October 10th, 1854. It is a torsional spring clutch acting upon the wheels of the car, and assisting their advance, when desired. in such a manner that the compression of the spring may be employed as a starting force whenever the cars are to be put in motion. This perfectly economizes the power, and the spring is made a reservoir of power, in which it is stored up until required. We are surprised that the device is not in use upon our city cars, where it would save the horses much wear and tear, and so put money in the pockets of the companies.

J. H., of Philadelphia.—H. C. Baird, of your city, is

publisher of a good work by Morfitt on tanning.
E. H. D., of Boston.—The work to which we referred

is the Scottish Guarctian. We hope you will be able to get all the information needed.

C. C., of Ohio; A. J. R., of Mass.; R. E., of N. Y .-We have written to you in reference to your machine for printing addresses on newspaper wrappers. We are having a large number of inquiries about it. See our remarks in No. 10.

W. T. C., of Md.-The ore you sent us for examina tion is iron pyrites, and is worth nothing.

J. D. R., of Pa.—Your sketch shows a water wheel which is intended to lift its own water, and thus keep itself perpetually in motion. The principle involved is the same as if a man should lift himself into the air by exerting his full strength upon the seat of his panta-

G. B., of Mass.-Black sealing wax dissolved in alco hol will answer your purpose forfilling in the engraved letters on door plates. It can easily be removed afterwards, when dry, with benzole or alcohol.

B. & M., of Ohio.-You can easily soften taps and dies so as to file them by heating them to a cherry color, then allowing them to cool very slowly in sand which has been heated. They require to be tempered

for use afterwards.
F. B., of N. J.—" Smee's Electro-Metalurgy" will give you the information desired regarding electroplating. Published by Wiley & Halsed, Broadway,

Money received at the Scientific American Office on account of Patent Office business, for the week ending Saturday, December 11, 1858:-

Saturday, December 11, 1895;—
S. F. S., of N. Y., \$55; E. D. J., of Maine, \$30; J.
M., of L. I., \$25; B. F. S. M., of N. Y., \$30; D. R., of
Pa., \$25; E. S., of N. J., \$30; J. B. W., of N. J., \$25;
E. H. A., of Ala., \$35; N. W., of Wis., \$22; S. & W., of Ill., \$25; N. & S., of Conn., \$40; T. D., of N. Y., \$35; G. S., of N. H., \$25; P. & C. D. A., of Ala, \$50; W. H. C., of N. Y., \$30; J. A., of La., \$40; D. G., of N. Y., \$20; M. C. C., of N. Y., \$25; S. M. H., of Md., \$40; W. B., of N. Y., \$30; J. D. F., of Ala., \$25; W. M., of Md., \$25; J. E. II., of Ohio, \$30; T. D., of , \$25 ; J. F., of Pa & S., of Ind., \$25; I. W. S., of Ill., \$90; P. H. K., of Mo., \$30; J. M. W., of Ind., \$25; H. R. K., of Vt., \$60; I. D., of Mass., \$150; S. & B., of Ind., \$25; D. P. K., N. J., \$30; S. Y., of R. I., \$30; J. G., of Pa., \$27; M. & D., of N. Y., \$30; O. S. O., of N. Y., \$30; G. E., of Wis., \$55; F. D., of L. I., \$20.

Specifications and drawings belonging to parties with the following initials have been forwarded to the Patent Office during the week ending Saturday, Dec.

G. S., of N. H.; J. F., of Pa.; D. & S., of Ind.; P. & C. D. A., of Ala. (two cases); J. L. G. W., of Mich.; W. M. W., of Ind.; M. C. C., of N. Y.; J. M., of L. I.; D. G., of N. Y.; H. & Z., of Ohio; S. & B., of Ind.; D. R., of Pa.; T. & W., of N. Y.; J. G., of Pa.; P. B., of N. Y.; J. D. F., of Ala.; S. & W., of Ill.; W. M., of Md.; F. D., of I., I.; J. B. W., of N. J.; T. D., of N. Y.; S. & N., of Conn.; G. E., of Wis.; A. D. of Mass.

50 O

Literary Notices.

THE BANKS OF NEW YORK: Their Dealers, the Clearing-House, and the Panic of 1857. By J. S. Gibbons. New York: D. Appleton & Co.—In this deprayed age of the world the most interesting subject of the day is money, and he who can writewell on currency, bullion or bills is a great writer. Mr. Gibbons can do this. The title explains the subject which is handled in a light and pleasant manner, with a due appreciation of the mcrits of a banking system, and a full knowledge of the principles that should govern it. It should be in every counting-house in the city, and all who are interested should carry a copy home.

home.

THE TENANT HOUSE: Or, Embers from Poverty's Hearthstone. New York: R. M. Dewitt, 160 and 162 Nassau street.—This book portrays in a series of vivid sketchy tales the life of the poor in our city. It is written by a gentleman who formed one of an investigating committee to report to the Legislature on the condition of the tenant houses, their occupants, &c., and the facts then collected form the basis of this work. It is a true remark, that "one-half of the world do not know how the other halflive," for if the poor could but know more of the rich, and vice versa, much misery and distress would be alleviated and banished from among us. This book shows where are to be found subjects for our charity, sympathy and relief, and the highest reward the author can have is to know that his narratives have incited many to try and do something to banish povertyand reducecrime. Need we say more than that the author is the Hon. A. J. H. Duganne?

TEXT-BOOK OF MODERN CARPENTEY.—This is a neat

TEXT-BOOK OF MODERN CARFENTRY.—This is a next and very able volume, by Thos. W. Silloway, Architect of the new Capitol at Montpelier, Vt. It treats of the preservation of timber, the construction of arches, walls, roofs, bridges, trussed beams, framing, &c., and sillustrated with several copperplate engravings. The information contained in it regarding the choice of timber for building purposes is very valuable. Sold by Wiley & Halsted, this city.

Wiley & Halsted, this city.

THE SAYINGS AND DOINGS OF SAM SLICK. By Judge Haliburton. Bound, 75 cents; paper. 50 cents. New York: Dick & Fitzgerald, 18 Ann street.—The writings of Judge Hab burton have long been regarded as the productions of the finest humori t that has ever attempted the delineation of Yankee charucter, and the entertaining work before us shows that he has lost none of his original wit and humor. It will be difficult to find a volume so full offun and good sense as this, which chronicles the last experience of Sam Slick.

THE AUTOCRAT OF THE BREAKFAST TABLE. By Dr. O. W. Holmes. Received through Mason & Bros, New York, from Phillips, Sampson & Co., Boston. When Dr. Holmes first undertook to be his own Boswell in the Atlantic Monthly, he had little intention, we suspect, of making a book, but he has made one full of pleasant philosophy, gems of poesy and quiet talka. What a grand thing it would be if all breakfast table talk resembled the Autocrat's! But it does not, and so we should all read the book that we may learn how to talk better than we now do, not only at breakfast, but all day.

OUR MUSICAL FRIEND is the title of a new musical periodical containing twelve pages of well printed music, original and selected. It is published weekly, at 13 Frankfort street, this city, and the price is only

BLACKWOOD'S MAGAZINE. Published by Leonard Scott & Co., Gold street. This veteran periodical for the present month contains a most able article on "Edward Irving," once the most celebrated pulpit orator in London; another on Buckle's "History of Civilization." "What will he do with it?" and the "Light on the Hearth' are continued.

We have received parts 43 and 44 of "Dr. Muspratt's Chemistry," applied to the arts and manufactures; and parts 23 and 24 of the "Imperial Cyclopadia of Machinery," by W. Johnson, C.E. Our acknowledgements are due to Messrs. C. E. Russell & Bros., of 12 Tremont street, Boston, and 290 Broadway, New York, the publishers of the above works.

A WORD TO OUR PATRONS.

WILL OUR FRIENDS FAVOR US ?- Any of our readers who do not preserve files of our paper for binding (we hope there are but few such), and who have Nos. 4 and 5 of the present volume which they are willing to spare, will oblige the publishers by sending said numbers to this office. Ten cents for each copy will be paid.

BACK NUMBERS of the present volume of the Scienti FIG AMERICAN will be supplied to new subscribers when desired, with the exception of Nos. 4 aud 5.

IMPORTANT TO INVENTORS

IMPORTANT TO INVENTORS.

A MERICAN AND FOREIGN PATENT SOLICITORS.—Messrs. MUNK & CO., Proprietors of the Scientific America, continue to procure patents for inventors in the United States and all foreign countries on the most liberal terms. Our experience is of thirteen years' standing, and our facilities are unequaled by any other agency in the world. The long experience we have had in preparing specifications and drawings has rendered us perfectly conversant with the mode of doing business at the United States Patent Office, and with most of the inventions which have been patented. Information concerning the patentability of inventions is freely given, without charge, on sending a model or drawing and description to this office. Consultation may be had with the firm, between nine and four o'clock, daily, at their principal office. Its Fulton street, New York. We established, over a year ago, a Branch Office in the City of Washington, on the corner of F and Seventh streets, opposite the United States Patent Office. This office is under the general superintendence of one of the firm, and is in daily com munication with the Principal Office in New York, and personal attention will be given at the Patent Office, are cordially invited to call at our office.

Inventors will dowell 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.

In word of the control of the contro

The annexed letter from the late Commissioner of Patents we commend to the perusal of all persons interested in obtaining patents:—

terested in obtaining patents:

MISSERS. 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 hands. I have no doubt that the public confidence thus indicated has been fully deserved, as I have always observed, in all your intercourse with the Office, a marked degree of promptness, skill, and fidelity to the interests of your employers.

Yours, very truly. CHAS. MASON.

Communications and remittances should be addressed to MUNN & COMPANY,
No. 128 Fulton street, New York.

JOHN W. QUINCY & CO., IMPORTERS and dealers in Metals, Cut Nails, &c., 98 William street, New York.

RARE CHANCE TO BUY THREE good patents very cheap—Address W. W. SHAW, 15 2* Troy, N. Y.

TO CAPITALISTS—A CHANGE SELDOM to be met with. Robert Griffiths, of Philadelphia, is now in this city, effecting sales of John McCarty's machine for making Horseshoes. The machine is simple, and of great p.wer; capable of taking the bar from the rollers, with only one attendant. Well secured by patent. Address, ROBERT GRIFFITHS, P. O., Spring Garden, Philadelphia, Pa.

CORLISS PATENT STEAM ENGINES—
On application, paniphlets will be sent by mail containing statements from responsible manufacturing companies where these engines have been furnished, for the saving of fuel, in periods varying from 2½ to 5 years. (The "James" Steam Mills," Newburyport, Mass, paid \$19,734 22, as the amount saved in finel during five years. The cash price for the new engine and bollers was but \$10,500.) These engines give a perfectly uniform motion under all possible variations of resistance. Two kindred and fifty, varying from about 20 to 500-horse power, are now in operation. Boilers, shafting, and gearing.

CORLISS STEAM ENGINE CO.,
15 26*

PATENTEES OR OWNERS OF PATENTS for Brick Machines that will make a brick of concrete mass, will find it to their interest to send their address, with full particulars, price, &c., and where to be seen nearest to New York. Address KURTH & ROSA, No. 95 Beaver st., New York.

FOR SALE-BICKFORD'S PATENT WINDOW Balance, with Gladwin's immovements of the control of the cont FOR SALE—BICKFORD'S PATENT WINDOW Balance, with Gladwir's improvements on the same, which makes this Italance valuable. Bickford's patent, with the improvements, are for sale in the following States, by States or by Counties:—Florida, Alabama, Tennessee, Illinois, New York, Mainc, Massachusetts except Suffolk county, Rhode Island except Newport, Bristol county, and the city of Providence. Also for sale, Gladwin's improved Self-operating Sash Lock. C. H. FARNHAM, General Agent, City Hotel, Hartford, Conn.

THE BUILDER'S POCKET COMPANION Containing the elements of Building. Surveying, and Architecture, with practical rules and instructions connected with the subject. By A. C. Smeaton. 77 illustrations. Price, \$1 by mail free of postage.

HENRY CAREY BAIRD, Publisher, Philadelphia, Pa.

FOR SALE—VOLUMES 3, 5, 6, 7, 8, 9, 10, SCIENTIFIC AMERICAN; four volumes bound. Also volume 11, except seven numbers. All in good order. 14 2* S. B. LEE, Camillus, N. Y.

FELT FOR STEAM BOILERS, PIPES, Ship-sheathing, and all varieties of felting manufactured to order by JOHN H. BACON, Winchester Mass.

REGULATING WATER GAGES FOR Steam Boilers are sold by the American and Foreign Steam Safety Co., that will save one-tenth of the fuel ordinarily consumed. Address, BENJAMIN F. BEE, General Agent, Boston, Mass.

THE POLYTECHNIC COLLEGE OF THE

State of Pennsylvania, West Penn Square, Philadelphia. Incorporated in 1833, and organized on the
plan of the Industrial Colleges of Paris and Germany,
comprising a preparatory department and four technical schools — The School of Mines; the School of Civil
Engineering; the School of Mechanical Engineering;
the School of Chemistry. Architecture and Design are
included in the courses, and ample facilities exist for
Field and Laboratory practice. The Sixth Annual
Session began September 20th, 1858. For catalogues,
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