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### 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 pam phlet of advice regarding applications for patents and caveats, printed in English and German. 18 furnished gratis on applica tion by mail Address MUNN & CO., No. 37 Park Row, New York.

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ent there. Circulars of information concerning the proper course to be pur sued in obtaining patents in foreign countries through our Agency, the requirements of different Government Patent Offices, &c., may be had gratis upon application at our principal office. No. 37 Park Row, New York, or any of our branch offices.

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Assignments of patents, and agreements between patentees and manufacturers are 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 inventors or patentees may be served at our offices. We cordially in vite all who have anything to do with patent property or inventions to call at our extensive offices, No. 37 Park Row, New York, whereany questions regarding the rights of patentees will be ch eerfully an swered.

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It is important that all works of reference should be well bound The SOLENTIFIC AMERICAN being the only publication in the country which records the doings of the United States Patent Office, it is perserved by a large class of its patrons, lawyers and others, for reference omplaints have been made that our past mode of binding in cloth is not serviceable, and a wish has been expressed that we would adopt the style of binding used on the old series. 4. .. heavy board descovered with marble paper, and morocco backs and corners. Believing that the latter style of binding will better please a large

portion of our readers, we commenced on the expiration of Volume VII. to bind the sheets sent to us for the purpose in heavy board sides, covered with marble paper and leather backs and corners. The price of binding in the above style is 75 cents. We shall be

unable hereafter to furnish covers to the trade, but will be happy to receive orders for hinding at the publication office, No. 37 Park Bow. New York.

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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 patences and date of patent, when known, and inclosing \$1 as fee for copying. We can also furnish a sketch of any patented machinelssued since 1853, to accompany the claim, on receipt of \$2. Address MUNN & CO., Patent Solicitors, No. 37 ParkRow, New York.

Models are required to accompany applications forPatents under the new law, the same as formerly, except on design patents when two good drawings are all that are required to accompany the ecification and oath, except the Government fee petition. s

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

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

NEW PAMPHLETS IN GERMAN .- We have just issued a red 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 cation at this office. Address MUNN & CO., n appli

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### Back Numbers and Volumes of the Scientific American<sup>3</sup>

VOLUMES I., II., III., IV., V., VII. AND VIII. (NEW SERIES) complete(bound) may be had at this office and from periodi-cal dealers. Price, bound, \$225 per volume, by mail, \$3-which includes postage. Every mechanic, inventor or artizan in the United States should have a complete set of this publication for reference ribers should not fail to preserve their numbers for binding. VOL. VI. is out of print and cannot be supplied.



J. T., of Pa.-Color-blindness is more common than many It is calculated by those who have given this sub ssuppose ject attention, that one person out of every nineteen cannot distinguish colors accurately. Locomotive engineers, and the pilots of vessels, should all be examined with respect to their capa acity for distinguishing colored signals.

H. Y., of Pa.-A very good cement, for the joints of stone flags and chimney caps, is made with linseed oil, red lead and whitnage and commonly cape, is made with insected or, ice itsed and which ening. Take equal parts of the two latter, and kneed them with the oil, until a cement of the consistency of putty is made; when it may be applied with small trouble.

H. M. P., of N. Y.-A cubic foot of hydrogen gas in a balloon is capable of supporting about an ounce weight. Your proposed method of guiding balloons by light spiral fans is not new. Capt. J. Taggart, of Roxbury, Mass., made several ascents with balloons, about ten years ago, in which he used fan guides.

W. P. T., of N.J.—Scrap-iron may be converted into cast y placing it in a crucible with about one ounce of powdered al to the pound of iron, and one-fourth of an ounce of the steel by placi oxide of manganese, then covering the crucible and submitting it to a high heatin a furnace for several hours.

R. P. T., of Mass.-The colors on silk, to which you refer, are dyed with aniline oxides, without moriants. Cotton requires to be prepared with an infusion of sumac to take on aniline colors; but neither silk nor wool require such a preparation.

T. L. D., of Maine.-If any one has made you believe that an 18-pounder field-piece can be fired with a charge of grape shot, from a mules back, without disturbing the equanimity of the beast, you must be remarkably credulous. Common sense would teach you better.

I. S., of Ill.-Methylated spirits proper, are distilled from wood: but common spirits, to which are added a little creosote, are called methylated spirits, in England.

T. L. M., of Ohio.-You will find a table of the character ou mention in the present number. The rules or rather sizes there laid down, will enable you to proceed without delay in the construction of your machine

W. R., of Wis.-Coal tar is certainly a good preservative of wood placed in the ground; and, if you can obtain it conveniently, we advise you to coat the bottoms of your fence posts with it We also advise you to season your fence time'r thoroughly, before

T. B. R., of N. Y .- The most convenient disinfectant for your cesspool and sink, is copperas (the sulphate of iron.) Dissolve one pound weight of it, in five gallons of hot water; and pour it into your sink; the offensive odor will soon disappear.

L. F. G., of N. Y .- Cast-iron may be granulated by pouring it, while hot, among cold water, then reducing to fine powder. by grinding in an eccentric mill. The grindings of steel tools may be washed and freed from sand, and an impalpable steel powder thus obtained, which may be rendered magnetic. Pure soft iron cannot be rendered permanently magnetic, like steel and cast

R. L., of Mass.-Forcing pumps for fire engines were employed as longago as the reign of the Roman Emperor Vitruvius We do not decide bets. You can use the information as you pl J. M., of Vt.-Water rams are still used in many places. Yon willfind a fulldescription of them in Silliman's Philo P. W. D., of Conn.-The machine you speak of has not strated in the Scientific American

B. B., of N. Y .- A forth-coming number will contain the information you desire.

G. R., of Conn.-Why brass castings assume different colors, after being turned, or planed, is a question we cannot answ positively. It is due probably to the chemical action of light up the materials of which the brass is composed. iot answer

- P. A. C., of Mass.-The sample of paper which you have ent us, made by your machine from basswood, appears to be suit able for many purposes. It is very soft, and similar to the common white blotting paper which we use.
- L. J. O., of Minn.-The water upon the surface, and near the sides and bottoms of deep rivers, moves with less velocity than the current in the middle, at some distance below the surface. The air at the surface offers resistance to the water, and the sides and bottom obstruct its flow. Rafts and boats floating down in the mid die of a deep river move faster than chips thrown upon the surface
- F. M., of Ill.—The allow, for lining journal-boxes, called Babbitt metal, is composed of 24 parts, by weight, of copper, 24 of tin, and 8 of antimony. These metals are fused together in a crucithe, and run into ingots; the alloy is then ready to be cast in the journal-boxes.
- C.A.W., of Maine.-Your reasoning is correct as to what might cause the failure of the first Atlantic telegraph cable. in the breaking of the copper conductor, through the clongation of the outer spiral sheath of wire. But it is now known that the cable was indifferently constructed : and it had been injured before an attempt was made to lay it.
- F.R.Van T., of Ohio .- Equal parts of the chlorate of potash, and the sulphuret of antimony, made into a paste, with a gum water; then formed into pellets and dried, may be employed for the percussion pellets of guns. But the common fulminating powder used in percussion caps, consists of fulminating mercury, nitrate of potash, sulphur, and a little ground glass. You will find a description of the manufacture of percussion caps on page 392. . current series of the SCIENTIFIC AMERICAN Vol. IV
- R. A. B., of Mass.-Send us the drawing and description and we can proceed forthwith.

## Money Received

At the Scientific American Office, on account of Patent Office business, from Wednesday, Aug. 5, to Wednesday, August 12 1863 ....

A. H. G., of N. J., \$16; D. H. P., of Cal., \$25; J. K., of Iowa, \$25; E. C. C. K., of Conn., \$60; W. C., of Ill., \$16; C. C. A., of N. Y., \$787 50; G. McG, of Ohio, \$25; T. J. K., of Ohio, \$16; L. E. R., of Ill., \$16; P. &. H., of Ohio, \$16; A. M., of N. Y., \$16; J. B. B., of 111., \$16; P. &. H., of Ohio, \$16; A. M., of N. Y., \$16; J. B. J., of C. W., \$16; W. & C., of N. Y., \$25; N. & N., of Ill., \$2×; B. & B., of N. Y., \$100; C. R., of V., \$16; H. A., of N. Y., \$15; IL & C., of Conn., \$10; S. D. L., of Mass., \$41; W. B. H., of N. Y., \$16; I. M. M., of Conn., \$16; R. & B., of N. J., \$100; H. B., of Pa., \$25; S. & P., of N. Y., \$15; S. M., of N. Y., \$25; B. H., of Kansas, \$20; S. & P., of N. Y., \$15; S. M., of N. Y., \$25; B. H., of Kanasa, \$20; G. M., of Ill., \$20; L. D. B., of Pa., \$20; B. & L., of N. Y., \$20; W. G., of Pa., \$26; J. P. Jr., of Cal., \$20; A. S., of N. Y., \$20; J. W. K., of Massa, \$20; H. B. S., of Ill., \$20; J. H. R., of Mich., \$20; R. D. N., of N. H., \$20; H. P., of Pa., \$20; E. B. R., of N. Y., \$16; G. M. L., of N. Y., \$10; E. C., of N. Y., \$20; C. C. of N. Y., \$16; F. R., of N. Y., \$20; T. R., of N. Y., \$20; B. F. H., of Wis., \$20; S. A, & W. H. P., of N. Y., \$20; R. M. P., of Wis., \$20; M. & S., of Pa., R. R., of N. Y., \$20; N. B. H., of N.Y., \$16; G. L. W., of N. Y., \$16; J. A. V. R., of N. Y., \$20; R. H. J., of Ill., \$65; H. G., of N. Y., \$25; P, T, of N. Y., \$25; W. F. P., of Conn., \$12; E. B. R., of N.Y., \$25; D. L. D., of N. Y., \$25; W. F. P., of N. Y., \$28; M. B. W., of Conn., \$16; J. T., of Wis., \$20; S.W.N., of N.Y., \$25; D. C. M., of N.T., \$20; M. F. G., of N. J., \$25 ; G. W. L., of Ohio, \$15.

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Specifications and drawings and models belonging to parties with the following initials have been forwarded to the Patent Office from Wednesday, August 5, to Wednesday, August 12, 1863:W. F. P., of Conn.; L. M., of N. Y.; L. D. L., of Mass.; G. H. L., of III.; F. M., of C. W.; J. M., of N. Y.; L. B. D., of N. Y.; L. D. C., of Mich.; G. McG., of Ohlo; P., W. & S., of Cal.; C. J. P., of

B. C., Of Mark, G. McG., Of DN, Y.; D. P., of Cal.; J. N., of II, ; B., R. & V., of Jowa; P. E., of N. Y.; D. P., of Cal.; J. N., of II, ; B., R. & V., of Ohio; D. L. D., of N. Y.; W. & C., of N. Y.; C. B., K., of Conn.

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the [t or a process "a βhi is made in the name of a firm, the names of all the parties a support, or the b'd will be considered as the individual proposal

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certificate of the clerk of the nearest district court or of the United States District Attorney. The shifty of the bidder to fill the contract, should it be awarded to him, must be duranteed by two responsible persons, whose signatures are to be supended to the guarantee, and said quarantee must accom-pany the bid.

are to be appended to the guarantee, and said inputrimite miss accompany the bid. Bonds in sums of double the amount involved in the contracts, signed by the contractor and both of his guarantors, will be required of the successful bidder or bidders, npon signing the contract. We \_\_\_\_\_\_, of the count v of \_\_\_\_\_\_, and State of \_\_\_\_\_\_, do hereby guarantee that \_\_\_\_\_\_ is able to fulfill the contract in accordance with the terms of his proposition, and that should his proposition be ac-cepted be will at once enter into a contract in accordance therewith. Should the contract be awarded to him we are prepared to become his securities. (To this guarantee must be appended the official certificate above mentioned)

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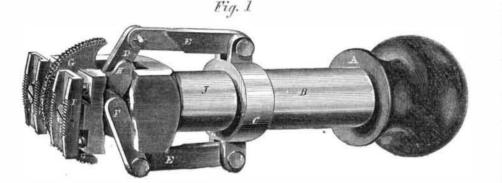
## Improved Stamp Canceler.

The annexed engraving represents one of a class of instruments which have been needed lately, in the transaction of public and private business. It is a well known fact that all stamps required by the Internal Revenue department, and also those on letters, must be defaced, so that they cannot be used a second time, thus defrauding the Government of its revenue. The canceler herewith illustrated is intended more particularly for the Post Office Department; and, though apparently complex in its outward appearance, is in reality a very simple contri-vance, as will be seen by reference to the following description. The wooden handle, A, is securely fast- extremely liable to suffer from drought, if there is

tion of the canceler is shown in Fig. 2, where the address of the inventor, and the defaced stamp are well shown. For further information address Dr. Samuel W. Francis, Newport, R. I., Box 240.

### Window Flowers.

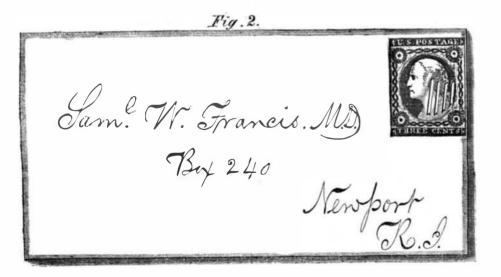
When the windows and balconies are filled with a selection of plants according to taste, and these are planted into moderately large pots sufficient to last them through the growing season, they will require little other attention besides watering, which must be very regularly and constantly done. Plants in this situation, from the position they occupy, are



### FRANCIS'S STAMP CANCELER.

upon it. The ends of the levers, D, are jointed to the lugs on the collar, by links, E; these levers work on a small shaft, F, which passes clear through the body of the instrument, and is there fixed in its place by a pin and washer. In the extreme end of the instrument, opposite the knob, is the defacing device, consisting of two serrated steel quadrants, G, which work on the shaft, F, previously mentioned; (one side of the jaw of the instrument is removed to show the arrangement), and have lugs, H, by which they are connected with the levers, D. The quadrants work in a slot in the instrument, on each side of which there are serrated plates, I, slightly oval on their faces, which are secured to the bottom by damped. Where moss is easily procured, a bed of it screws, and can be set out, or depressed, in order to may be formed on the window-ledge, in which the

ened to the metallic tube, B, which has a collar, C, the least neglect in administering their supply of water. This applies equally to all kinds of plants cultivated in these situations. In order to protect the plants from injury in consequence of the powerful rays of the sun striking directly on the side of the pots, often very thin and forming a mere shell around the roots, it is advantageous to set the pots containing the plants within others just large enough to contain them; the double sides of the pots, together with the small open cavity all around between the two, prevent the evil to a very great extent; and it may be still further prevented by choosing the exterior pot still larger, and filling the cavity between the two with moss, which is to be kept



make the defacing gear cut to a greater or less depth, as may be desired. The tube carrying the collar, C, slides upon another tube, J, and by pressing down with the wooden knob, A, the plates, I, holds the instrument from slipping, while the quadrants, actuated by the levers, through the motion of the upper tube, work in opposite directions, and saw, or scratch the face of the stamp so that it is irremovable in a sound condition; a concealed spring in the upper tube pushes the lower tube out again, and readjusts the instrument for use. This is in brief the whole of the invention, and it is most satisfactory in its workings. We think, for a mechanical defacer, it is the best one we ever saw; as it is very strong, cannot get out of order with any kind of decent usage, and will do the work effectually, while it does no injury to the letter itself, or its contents. It is now in use we believe in the effice at Newport,

pots could be plunged, the moss being kept damp. Cottage Gardener.

### A Capital Idea.

A pleasure carriage passed our office, yesterday, the black top of which had been entirely covered with white muslin. The purpose of thus changing the color was no doubt to avoid the heat that a black surface, exposed to the rays of a burning sun, is known to absorb so much more than a white one. Any one who rides under a black covering, in a sun like that of the past two days, may know, by putting his hand against it, that it becomes as hot as a boiler plate with a full head of steam up, to the great discomfort of the occupant: while the old farmer, under the white linen cover of his market wagon, jogs along comparatively cool. The cost of making the change from black to white is, in such B. I., where we are told it is much liked. The ac- cases, trifling ; and the advantage is great, to those

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who ride much in the sun. The man who put it in practice, in the instance mentioned, is an observer and a philanthropist, whose example should command universal favor.—Philadelphia Ledger.

Sound REGISTERING MACHINE.-M. Koenig, of Prussia, recently invented a machine by which sound points its own undulations and vibrations. A glass cylinder is coated with fine lamp-black, and applied turning to a tuning key, when the latter vibrates. From impressions left on the lamp black, all the different vibrations of sound, from A to G, are registered, and from the records a beautiful series of acoustic charts have been drawn out.



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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.

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The SCIENTIFIC AMERICAN will be found a most useful journal to 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 those 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 SCIENTIFIC AMERICAN ; most of the improvements in agricultural implements being illustrated 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 Patentsissued 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 Ger-many; thus placing in our possession all that is transpiring in mechanical science and art in those old countries. From those journals we shall continue to transfer to our columnscopious extracts of whatever we may deem of interest to our readers.

## To the Mechanic and Manufacturer !

No person engaged in any of the mechanical pursuits should think 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 publication. It is an established rule of the publishers to insert none but original engravings, and those of the first class in the art, drawn and engraved by experienced artists, under their own supervision, expressly for this paper.

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