

Scientific Museum.

To Coat Iron with Copper or Brass.

Clean the iron to be coated of weak sulphuric acid, to which add a small quantity of yeast. Be sure to take all the scale off the iron, so as to leave it perfectly bright; wash the iron in warm water to remove the sulphuric acid, and then immerse it in a bath of muriate of zinc, with a small quantity of muriate of tin added, and it is further improved by the addition of a little muriate of ammonia. The articles are taken out of this bath, and dried on a hot iron plate, and while hot immersed or drawn through the melted metal.

The copper, brass, German silver, or other metal alloys are melted in a wrought-iron or malleable iron pan, into which is introduced in the state of a powder a sufficient quantity to answer as a flux, of borax and fluoride of soda, or the molten metal may be poured from the iron pan in which it is melted, into another iron pan containing these ingredients, and the fire kept up under it. The flux prevents volatilization. The iron to be coated is then introduced into the molten metal which becomes liquid at a lower temperature than iron, and kept agitated until it is sufficiently coated. After the iron article, or articles are thus coated, they are taken out, and when nearly cold, to clean and improve their color, they are quenched in dilute sulphuric or muriatic acid. By this process, iron nails represent copper, brass, and German silver, and other parts of coffin furniture; iron, spoon blanks, wire, and sheet-iron, and various articles in cabinet furniture have thus been coated. Spoons, wire and sheet iron may thus be coated. The spoons which are thus coated with German silver may afterwards be polished and polished. Wire thus coated may be drawn into any required thinness, and retain its coating, although several times annealed and pickled. It is therefore a valuable process for those who make thick iron wire for lightning conductors, &c. Iron wire thus coated, drawn through one hole to level its surface and tipped, makes excellent stair rods—the eyes of which are coated in the same way, and pickled, dipped, and lacquered.

The Sheffield makers of stair rods know this, hence the great number of such rods sold here for real brass with brazen effrontery. File through any round brass stair rod, and very likely it will be found to have an iron heart covered with a thin brazen coat; this we suppose is unknown to the majority of our good housewives. Sheet iron treated by this process may be rolled very thin, having the appearance of the genuine metal of which it is coated. The articles in cabinet furniture may be pickled, burnished, and lacquered, to suit the class of articles, so as to deceive the sharpest eyes in relation to their composition. The above, we have no doubt, will prove valuable to many of our readers.

Cleaning Stained Cotton.

Joseph P. Black, of Abbeville, S. C., writes to the "Independent Press" of that place, and describes as follows his mode of cleaning cotton soiled by rains:—

"Take a common wheat thrasher, and raise the cylinder one inch, the box one-half inch, which will throw the frails an inch from the cross bar, and by placing the cross bars an inch apart, the dirt and trash pass through and fall in a heap near the thrasher, and separately from the cotton. In this way I cleaned enough dirty cotton to make some three bales of ginned cotton in about two hours. It can be cleaned as fast as several hands can feed the thrasher, and when done, is as white as that which has opened since the rain."

Preserving Butter.

The farmers of Aberdeen, Scotland, are said to practice the following method for curing their butter, which gives it a great superiority over that of their neighbors:—

"Take two quarts of the best common salt, one ounce of sugar, and one ounce of common saltpetre; take one ounce of this composition for one pound of butter, work it well into the mass, and close it up for use. The butter cured with this mixture appears of a rich and

marrowy consistence and fine color, and never acquires a brittle hardness nor tastes salty. Dr. Anderson says: 'I have eaten butter cured with the above composition that has been kept for three years, and it was as sweet as at first.'

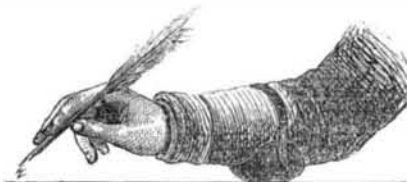
It must be noted, however, that butter thus cured requires to stand three weeks or a month before it is used. If it is sooner opened the salts are not sufficiently blended with it, and sometimes the coolness of the nitre will be perceived, which totally disappears afterwards."

Elastic Pad for Penmen.
FIG. 1.



The annexed engravings are views of an Elastic Pad to be placed on the arm for giving ease to penmen when writing. A patent was granted for the improvement on the 29th of April, 1851, to Joseph G. Goshon, of Shirleysburg, Pa., and William H. Towers, of Bucyrus, Ohio. Figure 1 is a perspective view of the pad, and figure 2 is a view of it applied to the arm of a penman. The pad is made of an elastic material, such as india rubber or an air cushion, it is of a semi-globe form, the inside, A, being concave, and the outside, B, convex; C is a small band or strip of leather, or any other suitable substance; it is permanently secured to one side of the pad, and has a number of small button holes in it. A small button is secured on a lug, E, on the other side of the pad, and the strap is represented as buttoned at D. This strap allows of a pad being adapted for arms of various thickness, also for securing it on any part of the arm, from the elbow to the wrist, as the wearer may require.

FIG. 2.



Owing to the form of the pad, A B, and the elastic nature of the material of which it is made, it is a flexible support and rest for the writer's arm, allowing it to move and turn with freedom and ease, and prevents the fingers becoming cramped and numb, from resting the arm by continuous writing upon an inflexible table or desk. One of these pads or cushions will last for a number of years, and beside being a relief to a writer, will soon save the amount paid for it in preserving the coat sleeve.

The claim is for the elastic pad or cushion to be placed on the arm below the elbow for the purposes mentioned.

More information may be obtained by letter addressed as above.

Dr. James K. Davis, who went out to Turkey seven or eight years ago, on invitation of the Sultan, to attempt the cultivation of cotton, failed in that enterprise, but brought back some Persian goats, which produce the cashmere wool and from which he is raising up a flock of goats that promise to be a valuable addition to the stock of the country.

The ice merchants in Boston ordered their agents at Mobile and New Orleans, at the breakout of the yellow fever, to deliver, gratis, ice to all who might apply for it to be used in cases of sickness.

This was a generous action indeed.

The Benefits of Olive Oil.

MESSRS. EDITORS—I am often asked "What is the benefit of your scientific paper?" I have been a constant reader of the "Scientific American" for five years, and have not allowed a single number to escape without perusing its contents; for myself I can say that I derived considerable personal benefit from it early last Spring. I was attacked with a pain in my stomach, a little on my right side, which so affected me that I was scarcely able to walk about. I employed the best medical aid, so considered, to be found in this vicinity, but all to no purpose. At last I was besought to allow a young physician to try his skill, and about the same time I noticed in Nos. 37 and 38, Vol. 8, "Scientific American," articles on the subject of Olive Oil, and its good effects upon the human system, but did not mention it to the physician, who yet had not prescribed anything for me. In a few days after this I requested him to do something for my relief, if he could: he ordered me to take half a pint of olive oil, and two tea-spoonsful of the essence of anise, mixed together, and to drink this at stated times. Considering well upon what I had read in your valuable paper, I fell in with his prescriptions; a week from that time he ordered a second dose of the same. Since using it I have not experienced the slightest pain, unless I exercised too severely, which sometimes produced a little but only momentary pain. Some physicians told me I had the liver complaint, others consumption, but the young physician spoken of did not agree with any of them, and judging from what he said, and the effects of the oil,—he was right. Now, I would ask, could there be a more simple and safe remedy than olive oil? The doctor says he finds it a very useful article in his profession, and that the public are not aware of its good healing properties. E. W. D. Norwich, Ct.

(For the Scientific American.)
The New Steamboat Law.

Allow me, through the columns of your valiant-for-truth paper, to make a few remarks on the workings of the New Steamboat Law, now in force. The good effects of this law are seen and felt by every sensible well-thinking man; the public have been fully satisfied with it, so far as it has gone. The loss of life is very small for the past six months, compared with the same months in other years; this effect must be produced by some cause. It has been said by some steamboat owners this law is a humbug, and they mean to use their money and efforts, at the next Congress, to have it repealed. I have no doubt they will, as some of them have not yet complied with its provisions. I hope every Member of Congress will take the trouble to post himself up in regard to the good effects of this law, before he votes on the question of repealing it. The Engineers, of whom I am one, have been knocking at the door of Congress for several years for the enactment of such a law. The beneficial effects of this one is traceable to several causes; the first is the prohibition of drinking men to manage steamboats; another important thing is, it is every man's interest to carry out the law, as he has taken oath to do so, and if he fails so to do, his license is revoked, and then he cannot get employment any where on the Mississippi or Ohio rivers. This is a very important feature, for an engineer holds his situation only by doing his duty. This feature is carried to a wonderful extent in England,—every police officer and fireman holds his office only during good behavior. There is a great difference between a man holding his office for one or more years by election, and one holding it as long as he fulfills his duty. Another effect of the New Steamboat Law is the adoption of better means of avoiding danger, in the way of life-boats and life-preservers, steam and water gauges, and the fusible alloy in the boilers: this latter is a valuable acquisition when properly applied; but, unfortunately, it has been allowed by the inspectors to be applied in any way, such as having the plugs in the flues, and some on Evans' plan, which, in my opinion, is decidedly the best: it has two advantages over the plates or plugs; the pressure does not come on the alloy, the same metal answers all the time. The inspectors should settle down on some system of using the alloy,

which will be certain and uniform in its operation; such an important matter should be well digested, and some uniform plan adopted. Some of the Inspectors also will pass things which others will not; and some are not capable of inspecting themselves; these things should not be.

Who is it that objects to this law? No one but the owners of boats, who have to pay for fitting the boat out in compliance with the law; the public and engineers do not object; the pilots do not, except one here and there, who likes liquor too well. I send you these facts that the public may have a chance to think for themselves before the proposition comes up to repeal this good law. AN ENGINEER.

[In our article, last week, on "The Association of Engineers," we mentioned that the views expressed at the meeting in Cincinnati accorded with "the statements contained in a letter on another page;" the above was the letter referred to; it was then set up, but owing to the very long list of patent claims, it was not published.

LITERARY NOTICES.

PRACTICAL DRAUGHTSMAN'S BOOK OF INDUSTRIAL DESIGN.—For mechanics and engineers: published by Stringer & Townsend, New York; edited by Wm. Johnson, C. E. Part 4. This work is a translation from the French of Armengaud, the Elder and Younger. It is an excellent work.

THE BIBLIOTHECA SACRA—The October number of this famed religious Review, published by Wm. F. Draper & Brother, Andover, Mass., contains an article on Phenology by E. E. Pond, D. D., which is characterized by keen logic and a profound knowledge of his subject. Another article on Prof. Edward's Life and Writings, is full of interest and learning. Another article, by Prof. Stowe, on the Prophet Jonah, contains some views that are invulnerable in respect to the veracity of the Scriptures.

ENGINEERS AND MACHINISTS' DRAWING BOOK—Part 5.—Rackie & Son, publishers, Glasgow, London and New York. This work is on the basis of M. Le Blanc and MM. Armengaud. The engravings are on wood and steel; they are excellent, and the whole work is creditable to all concerned. It is indeed somewhat singular that the French draughtsmen should teach the English machine draughting, but so it is.

SHIP BUILDER'S MANUAL.—This excellent work, published by Adriance, Sherman & Co., this city, and edited by John W. Griffiths, has now reached its ninth number; it will be completed in three more numbers.



Manufacturers and Inventors.

The present Volume of the SCIENTIFIC AMERICAN commences under the most gratifying assurances, and appearances indicate a very marked increase to the subscription list. This we regard as a flattering testimonial of the usefulness and popularity of the publication so generously supported. We are greatly indebted to our readers for much valuable matter, which has found a permanent record on its pages. The aid thus contributed has been most important to our success, and we are grateful for it.

From our foreign and home exchanges—from the workshops, fields, and laboratories of our own country, we have supplied a volume of more than four hundred pages of useful information, touching every branch of art, science, and invention, besides hundreds of engravings executed by artists exclusively in our employ.

The present Volume will be greatly improved in the style and quantity of the Engravings, and in the character of the matter, original and selected. Having every facility for obtaining information from all parts of Europe, we shall lay before our readers, in advance of our contemporaries, a full account of the most prominent novelties brought forward.

The opening of the Crystal Palace in this city, forms an interesting subject for attraction. We shall study it faithfully for the benefit of our readers, and illustrate such inventions as may be deemed interesting and worthy.

The Scientific American is the Repository of Patent Inventions: a volume, each complete in itself, forms an Encyclopedia of the useful and entertaining. The Patent Claims alone are worth ten times the subscription price to every inventor.

PRIZES!! PRIZES!!

The following Splendid Prizes will be given for the largest list of mail subscribers sent in by the first of January next:

| | |
|-------------------------------|--------------------------------|
| \$100 for the largest list. | \$30 for the 7th largest list. |
| \$75 for the 2d largest list. | \$25 for the 8th ditto |
| \$50 for the 3d ditto | \$20 for the 9th ditto |
| \$45 for the 4th ditto | \$15 for the 10th ditto |
| \$40 for the 5th ditto | \$10 for the 11th ditto |
| \$35 for the 6th ditto | \$5 for the 12th ditto |

The cash will be paid to the order of the successful competitors immediately after January 1st, 1854.

These prizes are worthy of an honorable and energetic competition, and we hope our readers will not let an opportunity so favorable pass without attention.

TERMS! TERMS!! TERMS!!!

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