

## SCIENTIFIC MUSEUM.

## A Want Supplied.

A domestic hand loom of a simple construction that could be easily managed, and worked by the most inexperienced, was a great desideratum in country districts. The old fashioned hand loom is cumbersome and difficult to work by those not accustomed to it, and some improvement was much to be desired. This improvement, we are able to congratulate our country readers, has been effected, and we have had the pleasure of viewing a new hand loom, which is illustrated on page 148, this volume. It differs from the hand loom which is at present used, in the direct action of the lay, thus working the treadle and throwing the shuttle, whereas, by the other, the treadle is operated by the feet, and the shuttle thrown by the hand. This alone would be sufficient to obtain for it a preference among the farming classes, who required some such simple contrivance by which weaving might be done at home without the trouble of a long practice, which is required by the old method to obtain any sort of proficiency. The above improvement has, however, many other advantages, it will do a greater quantity of work, takes up much less room, and is so simple and inexpensive in its structure, that it can be made wherever there is a carpenter and an ordinary blacksmith. A hand loom of this description will be of incalculable benefit, for it must infallibly make weaving as common an art as that of handling the needle, and indeed requires less skill. Those who have been accustomed to the old fashioned country loom will find no difficulty in operating this, for the manner of putting in the web is precisely the same, and very little instruction will be required by the uninitiated. All sorts of cotton and woolen articles of a common description can be manufactured by this loom, and it is well adapted for the South, where it might be advantageously employed for weaving the common fabrics of domestic use.

The patentee, S. C. Mendenhall, is now on his way to Washington, for the purpose of exhibiting his invention at the Metropolitan Fair in that city. We have not the least hesitation in venturing to affirm that this machine will eventually supersede the ordinary hand loom in country districts, and that it is as useful an article for domestic purposes as we have ever had an occasion of noticing. As an in-door resource of employment among farmers and others, it will be of the greatest value, and every housewife will be rejoiced at the introduction of a money-saving machine that can be worked so easily and so effectually almost by a child.

## Natural Gas.

The "Holmes County (Ohio) Farmer" states that a wonderful natural curiosity has been discovered in that county, in the shape of natural gas. The discovery was made on the farm of a Mr. Purdy, some eight or ten rods south of the house, in a curious kind of earth resembling dark sawdust. The owner, for some years, has been aware of the existence of some wonderful phenomena. The place on which the discovery has been made has been cultivated for a number of years, and it has been observed that, in a number of places, every thing planted or sown, and all kinds of vegetation, would dwindle and die, and seemingly turn up. After the late rains the water was discovered to be agitated, and to bubble up in a number of places, which led Mr. Purdy and others to experiment, by collecting a bottle of this gas, and setting it on fire, when, the instant a lighted match was touched to it, the vapor ignited, and sent the bottle whizzing through the house.

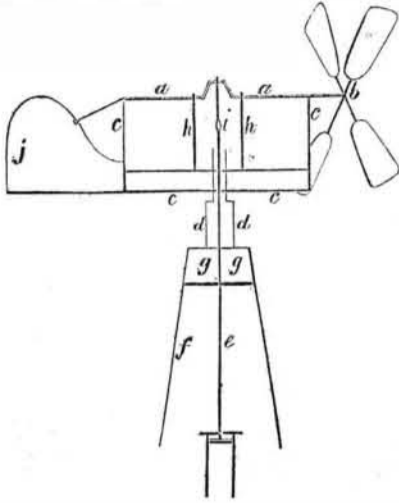
How have the Chinese managed to keep their lands in a productive condition for so many centuries, with so few cattle, and without the usual facilities for producing manures, which are so common to all other highly cultivated regions?

A sort of prepared linen is now used in Germany to print youngsters' books on; it is dearer than paper, but the youngsters cannot tear it.

## Wells, Pumps, &amp;c.

[Continued from page 176.]

**WIND-MILL PUMP.**—The annexed engraving is an elevated section of a plan for working a pump by the direct action of the main shaft of a wind mill.



*a a* represents the shaft; *b b* the fans; *c c* the frame on which the shaft rests; *d* is a cylinder on which the frame turns, so as to keep the sails to the wind; *e* is the piston rod passing from the top of the pump to the crank; *f* is the frame attached to the platform of the well; *g* is the top of the frame in which the hollow axle is placed; *h* are braces to prevent the shaft from springing; *i* is a joint and swivel to prevent the crank motion from interfering with the top of the axle, and also to prevent the lower part of the rod from turning with the frame; *j* is the oar to keep the wheel or sails to the wind.

On level lands such a method of pumping for irrigation may be very useful, especially where fuel is expensive. In places where fuel is cheap, we recommend a steam engine, but this wind-mill pump is no doubt adapted for the purpose specified, to many places of our extended country. In broad and open prairies near low sluggish streams, it might be employed with success. It can be made of any size and by any clever mechanic.

## Novel Manufactory.

The skins used by the London furriers for making muffs, boas, and tippets, are submitted previously to a singular process, called "tubbing." The workmen are ranged in tubs along the sides of an apartment, or shed, or outhouse, in a yard, or some secluded spot in London. Every tubber, with the exception of those who may be unwell, who may then wear a loose sort of jacket, which, however, tells against the efficiency and rapidity of his work—is altogether naked! The tub in which the man works reaches up to the waist, and a thick yellowish cloth is thrown over its top, which the workman keeps every now and then gathering about him, and which he can draw around him like a bag, so that while at his labor the upper part of his person alone is visible. There is no water or any other fluid used in tubbing, but the fleshy part of the skins are all buttered, and with the cheapest butter or scrapings, and in some places rancid butter, when such things are purchasable in sufficient quantity. Sawdust is used, which gives the butter a firmer tread, and tends to aid, by its friction, in scouring skins; so prepared, the men tread, and the perspiration which sometimes pours from them is considered better and readier for the cure of the skins than any butter or other fatty compound, which are looked upon as merely auxiliary to what oozes from the workman's body. And in this way men's sweat is forced for hours together into the skinny parts of the furs which are to be ladies' muffs, boas, and tippets.

## Testimonial to Lieut. Maury.

The merchants of the city of New York have taken measures to bestow upon Lieut. Maury, of the National Observatory, some mark of their high appreciation of what he has done for nautical science, and the benefit he has conferred upon the maritime interests of our country. We are happy to see this movement; it is honorable to our merchants, and nobly has Lieut. Maury earned the thanks and admiration of his countrymen.

## Francis' Life-Boat Manufactory.

Owing to the constantly increasing demand for Francis' invaluable life-boats, this gentleman has found it impossible to supply the demand without increased facilities. He has therefore erected at Green Point, a mammoth building for the construction of his metallic life-boats and life cars. The main part of the building is 190 feet deep by 113 feet wide, and 40 feet high at the peak, and contains 700,000 cubic feet of space, 21,470 cubic feet to each floor. The wall is 20 inches thick, and is built of brick, laid in hydraulic cement and grouted from top to bottom. There are eight 16 feet doors, and 247 lights, including the skylights. Each floor and separate apartment is thoroughly ventilated by flues, which are carried through the numerous piers for the health of the workmen. The roof of the building is of corrugated galvanized sheet-iron, and is said to be the best roof of the kind in the United States. The building was erected under the superintendance of Mr. Archibald White, of New York. The boiler-house is a separate building built of brick and iron. Some 70 or 80 men were to commence work in this factory on Friday; one press has now been put at work, which will prepare the material for about 40 boats per day, and eventually Mr. Francis intends to put in five more presses and engines, which will give employment in the various departments to about 500 men. The following is a description of the life car:—They are in shape somewhat similar to a boat, formed of copper or iron, and closed over by a convex deck, with a hatch-way, through which the passengers are admitted. The car will hold from four to five persons. When the passengers are inside the cover is shut down and bolted, and the car is then drawn to the shore, suspended by rings from a hawser which has previously been stretched from the ship to the shore. There is no light in the car, or openings for the admission of air; the car containing sufficient air for the use of its passengers for a quarter of an hour, and but three or four minutes are seldom occupied in reaching the shore. The company intend to send one of these cars, containing several live animals over Niagara Falls this season, in order to ascertain the quality of pressure they will sustain without injury.

## The Ericsson Hot Air Ship.

This ship left her place at Williamsburgh, on Tuesday the 15th inst., with a S. E. light breeze. From the time she passed pier No. 1, East River, until she passed the Narrows, it was 1 hour 38 minutes; she had the tide in her favor, and ran only at the rate of 6 knots per hour. A correspondent informs us that, with the tide in her favor, she only ran at the rate of 4 miles per hour, and an eye witness says that she took 22 minutes to make the first mile. She left to go to Norfolk, Va.; we have not heard any word from her since she went to sea. We are patiently waiting for the "New York Tribune" and "Times" to tell us the exact day—seeing the days of steam are numbered, when all our steamboats will stop running.

## Manufacture of Boiler Iron.

The Secretary of the Treasury publishes a notice to the manufacturers of boiler iron, calling their attention to the provisions of the new Steamboat Law, which requires,—

"That all plates of boiler iron shall be distinctly and permanently stamped in such manner as the Secretary of the Treasury shall prescribe, and, if practicable, in such place or places that the mark shall be left visible after the plates are worked into boilers, with the name of the manufacturer, the quality of the iron, and whether or not hammered, and the place where the same is manufactured."

The Secretary says, in pursuance of the authority vested in him by this act, that, in future, all iron to be used in boilers of steam vessels must be clearly and distinctly stamped in not less than three places on each sheet or plate, as follows, viz., at two diagonal corners, at a distance of about four inches from the edges, and also about the middle of such plate or sheet, with the name of the manufacturer, and the name of the place where manufactured, designating the latter by the name of the city, town, or county, and also State.

## Railroad and Engine—A Memorial.

A memorial has been presented to the U. S. Senate, by Col. James French, of Virginia, praying Congress to aid in putting his invention of a new locomotive and railroad in operation at Washington, to test his plan thoroughly. The memorial was referred to a select committee of five Senators, Messrs. Foote, Rush, Dawson, James, and Norris.

## LITERARY NOTICES.

**CHEMICAL FIELD LECTURES.**—Cambridge, John Bartlett; 12 mo., pp. 242. The above is a chemical work for agriculturists, by Dr. Stockhardt, Professor in the Royal Agricultural Academy, at Tharand Saxony, and is now presented in a translation to the American farmers, with additional notes, under the editorship of James E. Teschemacker. The subject of agricultural chemistry is one of such vital importance, that we cannot allow the opportunity to pass by of making a few remarks upon the subject. This new area of enquiry, which was first opened by Sir H. Davy, and so vastly extended by Liebig, is sufficiently ample to admit of still further votaries; and, considering his opportunities, no farmer should be content, in the present advanced state of knowledge, to be in ignorance of the constituents of the soil that he tills. That much culpable neglect has been exhibited by agriculturists of every country, in the tillage of the soil, no one can deny; and, therefore, the dissemination of agricultural chemistry will tend much to correct those errors into which so many have fallen. The proper application of manures is a subject of the greatest importance; and the author has treated lucidly upon the principal—namely, guano, bone dust, &c. But, as the work was originally written for the farmers of Germany, it is not so useful for the agriculturists of our own country as we would have wished. A careful reader will, however, gather much practical information from its pages; and on account of the vital importance of every thing pertaining to agricultural chemistry, we hail it as a valuable addition to the works already written on the subject.

**ILLUSTRATED JOURNALS.**—On the first day of January, Messrs. Barnum & Beach commenced the publication, in this city, of a weekly journal, devoted to art, literature, news, &c., under the title of the "Illustrated News." It is a large 8 vo. imperial sheet, profusely illustrated, and contains solid, interesting matter for all classes. It is truly a high-toned, admirable journal, and is conducted with great energy, enterprise and tact. No. 8. now before us, contains 19 beautiful engravings, done in the best style of the art. Among the subjects represented are the following: Burning of Steamers at St. Louis, The Castle, the Ghost of Wallenstein, Wadda Rapa, Mirage in the Desert, John Banvard, California Miner's Hut, Veterans of 1812 at the Capitol, Sponge Fisheries in Cuba, Fairmount Water Works, Philadelphia; Interior view of the Water Works, Mission House on site of the Old Brewery, Hou. of Refuge, Randall's Island; Bridal Cake at Rensselaer Manor; St. Peter's, at Rome; Adams' Express Building, San Francisco; Madame Sontag, from a daguerreotype; Madame Sontag in La Sonambula. The terms of the Illustrated News, are \$3 per annum Office, 128 Fulton street.

**BOOK OF THE WORLD, No. 6;** Weik & Wiecek, Philadelphia. This number, among other interesting matter, contains a short memoir of Henry Clay. It is properly called the "Book of the World," for it has something to say on every thing, and it would be strange if in so great a variety there should be any one who could not find some article that would be amusing or instructive.

"A Guide to Roman History," from the earliest period to the close of the Western Empire, by the Rev. Dr. Brewer; C. S. Francis & Co., publishers, 252 Broadway. This is a most excellent and instructive publication designed especially for schools and families. We recommend it as a work of uncommon value to those desiring to acquire, in an easy manner, a general knowledge of this ancient and venerable region.



## Manufacturers and Inventors.

A new Volume of the SCIENTIFIC AMERICAN commences about the middle of September in each year. It is a journal of Scientific, Mechanical, and other improvements; the advocate of industry in all its various branches. It is published weekly in a form suitable for binding, and constitutes, at the end of each year, a splendid volume of over 400 pages, with a copious index, and from five to six hundred original engravings, together with a great amount of practical information concerning the progress of invention and discovery throughout the world.

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The Patent Claims are published weekly and are invaluable to Inventors and Patentees.

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