Scientific Museum.

Receipts for Washing, &c.

This is a sorrowful deceiving world of ours, but as it is the best we have got, we must make the best of it. We know of no person for whom we have so much sympathy as a washing-day afflicted husband, especially those sentimental kind, who so frequently indulge in poetic rhapsodies about the thumping and scolding of their good wives on such occasions. We are happy to inform all such afflicted gentlemen that their sorrows are likely to have an end, if all stories are true. Twelve-trees, or green trees, or whatever is the name "charming name," advertises to settle the question for the small sum of one dollar, and Beavelt, on the other hand, displays a similar banner. These people know how to make good housewives happy on a washing day.—Receipts for mending broken china and crystal may be very well in their way, but they are insignificant things in comparison with labor-saving soap, and washing made easy.

It seems that the whole country has been flooded with pamphlets and paragraphs about rendering washing no job at all, that being performed merely by steeping and boiling without scrubbing and rubbing, as was done in the old fashioned way—all this to be taught by forwarding a dollar to the advertiser. Well, the price is not much and the information in the case of the Beavelt pamphlet, is well worth the money, but let us point to the philosophy of the business. The new receipts for washing made easy, is simply to steep the clothes on the night before washing, in some hot water and soap suds, and then make up a caustic ley composed of lime water and soda along with a bar of soap dissolved in it. This is to be used in boiling the clothes without rubbing, and then they are to be rinsed and hung out to dry. It is promised by all of these new fangled receipts that one person may do a washing for twenty before taking breakfast. As this is a feat worthy of Jack the Giant Killer, it would be a great blessing were it only a *fact*, but it happens only to be a *fiction*.

The bleacher of cotton goods, and the artistic shawl washer (a very particular business) have long been in advance of the domestic economist in respect to the purifying and cleansing of goods, and so far as what is termed *science* is concerned, we must say, that as a general thing, the majority of our scientific men are sadly defective in knowledge of the operative useful arts. Caustic ley made of soda and lime is used in every bleaching establishment and is the best liquid with which we are acquainted, for dissolving grease. It is this which combines with tallow to make soap, hence a little of it used in water for steeping clothes previous to washing, will soften the grease which may be in them, and enable it to be rinsed away in the water. But it is no labor-saving soap to mix good soap with caustic ley—it is the very reverse. The smallest possible amount of ley that can be used in washing, so much the better for the texture of the clothes. As caustic ley is very severe on the hands, we advise no one to use it who has tender hands. Washing is made easy by using an abundant supply of good soap. The following plan for white clothes, we believe is the best that can be used.

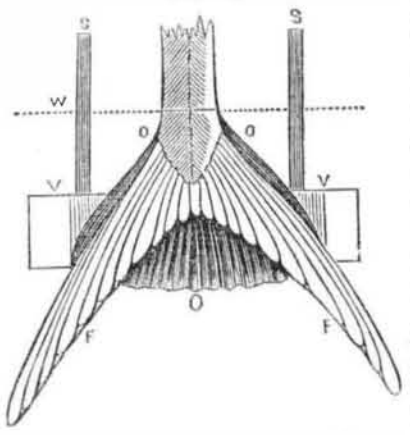
Dissolve a little soda in clean warm water, and steep the clothes for about twenty minutes. Then take them out and rub good hard soap on the creases that are most soiled, rubbing those parts between the hands or on the board, and then ring them out of the suds, and put then into a tub of warm water, in which has been dissolved some soft soap; pound them in this, then boil them, then rinse them in clean water, then blue them, ring them well and hang them out to dry. It is best to use a little soda in the boiling. No soap must be allowad to dry in the clothes, or they will appear in yellow streaks. There is indeed no necessity for so much rubbing, as a general thing, only those parts that are very dirty, such as wristbands, &c., without rubbing they will not be made clean; this is the universal testimony of all those who have used the advertised labor-saving soaps. It would be well if more good soap was used in washing clothes—it would save a great deal of labor. A bar of soap ought to be cut up into small pieces and dissolved in some water, and kept always at the side of the rubbing tub, and as the suds get weak, they should be strengthened by an addition of some more dissolved soap. When the suds get dirty, don't use them any longer for white clothes. Calicoes should be washed in strong cold suds,—so strong that they will feel slippery between the fingers; flannels should be washed in the same way, and then rinsed out in cold water, softened with a little soda. The soap should never be rubbed on calicoes nor flannels; calicoes of very indifferent colors can be washed with safety in cold suds—(but they must be quite cold.) Flour paste, beef's gall and all such things should be avoided. Cold strong suds, made of dissolved hard soap, is the best substance to use for white clothes, and calicoes and fine woolen colored goods should always be sent for washing to those who make it their business. About an ounce of borax dissolved in water along with a bar of hard soap for washing, is a most excellent substance for those who have tender hands, and it assists in the removal of grease and dirt along with the soap. It would be well if those who make their own soft soap in the country, paid particular attention to put no grease but that which is clean in their barrel, or if this cannot well be done, it is best to dissolve all the soap they use in warm water before washing, let it settle awhile, and then pour off the clear. This should also be done with dissolved hard soap, for there is some that is very dirty. The cleaner the soap is, so much the better for washing.

History of Propellers and Steam Navigation.

[Continued from page 280.]

MR. EWBANK'S (COMMISSIONER OF PATENTS) EXPERIMENTS.

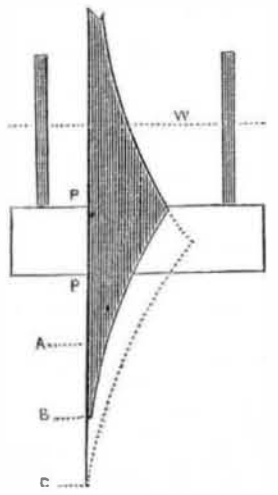
FIG. 56.



It is a very common thing to find men of very shallow head libraries, very egotistical in their notions. This class of men are the Don Quixotte's of Science; they battle with water mills and wind mills, and every new invention or new dissertation on some scientific subject that comes up, are sure to be smitten by them with great slaughter. It is not an uncommon thing to find men reviewing mechanical questions who know no more about what they are writing than they do about the craters of the moon, and among all the subjects which we have seen reviewed by small and large fry during the last ten years, the Report of the Commissioner, which we are now publishing, has met with the most attention. Some reviews of it which we have seen are good, but the funniest thing of a review of the subject was one by an attorney, in one of our cotemporaries. It was funny, inasmuch as it proved the Report erroneous in supposing that paddles which decreased downwards in their areas were better than those which had an accumulated surface toward the propelling extremities, whereas the Report is based conclusively upon the superiority of the latter kind of propeller over the former.

The Report again says "the expansion of the lower part of the paddle and its contraction above, is nature's own plan," and this it sets forth by the annexed diagrams of the tails of fast and slows fishes. Fig. 56 shows the combination of the tails of a fast and slow swimming fish and a steamer's blade. The dark part of the figure O O O is the caudal paddle of a fresh water bass, a slow swimmer, and to give it the speed of the dolphin itshould be constructed with the lobes, F F (dolphin) which will have the same material as O O O, but the propelling lever will extend further from the fulcrum, and will have a longer sweep and therefore exert their force to propel for a longer period on the water.

FIG. 57.



Suppose N W, the water line and the parallelogram V V, a steamer's blade, attached to the arms S S. The vessel's speed is required to be increased. How is it attained? Almost always by adding to the surface laterially at V V. Thus, as has been remarked, the ocean steamers now in progress in New York—supposed to embrace every possible improvement—have the paddle planks 14 feet, (some boats have them 22 feet!) stretching that distance from each side of the vessels; as if half the surface, disposed after nature's mode, would not be equally sufficient and with the same power; for, saving of power is as essential a result of improvement in form, as of approaching the truth in any other particular.

Suppose P P, Fig 2, represents one of those enormus blades about to be enlarged to make a vessel go faster, is it not apparent that by altering its figure to that shown by the dark tint, the rule of nature being followed, superior results must ensue; and this not by adding to, but actually dispensing with about one-half of the propelling surface. Were the boundaries extended to the dotted lines, the area would still be nearly one-third less than the original. In this type of blade a quality unkownin common ones is relieved, viz: every horizontal section bears a like amount of strain, and contributes equally to the work done, although their areas differ so materially; thus the portion included between the lines A P, from the larger sweep it has to take, equals the larger portion between P P; and for the same reason the section A B, equals A P;—increased range compensating for diminished surface. [This is a point which, I believe, no engineer has yet brought out. The idea is a new one in artificial propelling.] In this also, we see there is nothing accidental, or without deep meaning, in nature's works.

The ordinary mode of increasing the efficacy of paddles has been to widen the levers instead of lengthening them. Thus the jar arising from 14 to 20 feet planks striking the water, is a constant source of destruction to both vessel and machinery, while with blades, as figured above, it is annihilated, and the enormous amount of power consumed by it, saved.

Miscellaneous Receipts.

A rod of wrought iron, 1 inch square and 3 feet long, weighs 10·08.

A rod of cast iron, of the same dimensions, weighs 9·668 lbs.

A circular rod of wrought iron, an inch in diameter, and 3 feet long, weighs 7·89 lbs.; and of cast iron 7·567 lbs.

In converting iron into steel, a hundred weight of iron combines with from 4 to 12 ounces of carbon; the former proportion producing very mild steel, and the latter being the maximum dose for any useful purpose.

Steel, says Faraday, will not combine with more than 1-500th its weightofsilver; 1-100th of rhodium or barium producing an excellent alloy with steel.

A rod of very good wrought iron, 1 inch square, will support 30 tons without breaking.

A piece of steel which measured 2·769 inches when soft, was found by Mr. Pednington to measure, after hardening, 2·7785 inches; and when tempered to a blue, it measured 2·768 inches.

The following are the degrees of temperature at which steel assumes its various shades of color:—430 and 450° a pale straw and yellowish tinge; 460° a straw color; 500° bright brownish yellow; 520° brown; 540° red; 560° purple, and 580° a uniform deep blue. Weakened to a water color, the last tint distinguished before the metal becomes red hot.

At the imperial gas works, London, one bushel of quick-lime purifies on an average, 10·000 cubic feet of gas. At Cheltenham 1½ bushel of quicklime, reduced to a state of hydrate, will purify 10·000.

LITERARY NOTICES.

GRAHAM'S MAGAZINE, for June, appears upon our table through Messrs. Dewitt & Davenport, Agents, Tribune Buildings. The illustrations are exceedingly rich and beautiful, among the most prominent of which are "The Queen of the Woods," a line and stipple, by Tucker; and "The Jolly Ride," by Butler, executed in the highest style of the art.

We are indebted to the publisher for a magnificent steel engraving of the charming Jenny Lind, which, we are informed, will constitute the leading feature in the July number. That Jenny is beautiful no one can deny after seeing this likeness, and we advise the Prince of Iranistan to secure a large edition of the Magazine for gratuitous distribution among the devotees of handsome fa es and bewitching attitudes, for here we have Jenny, (not only as pretty as art and fancy could depict her) but as she appears warbling the sweet notes in "La Somnambula."

SARTAIN'S MAGAZINE OF LITERATURE AND ART for June, is also rich in embellishments, and varied and interesting in its contents.

PETERSON'S LADIES' NATIONAL MAGAZINE closes its half yearly volume with this number, and promises well for the new. All of the above magazines are for sale by Dewitt & Davenport.

AN INTRODUCTION TO THE WATER CURE.—Those enterprising publishers, Messrs. Fowlers & Wells, 129 and 131 Nassau street, have just issued a neat little shilling work of the above title, the object of which is to prove that water is the only medium required for the curing of all maladies.

THOUGHTS ON DOMESTIC LIFE.—Another shilling work, showing how to promote concord and how to avoid discord in social life, by the same publishers, Fowlers & Wells.

STRATAGEMS.—An interesting juvenile story, by Mrs. Newton Crosland, with four illustrations, has just been published, and is for sale by John S. Taylor, Nassau st.