A Superior Washing Fluid.

MESSRS. EDITORS—I send you a receipt for making a superior Washing Fluid, which I have had in use over two years. There is no precipitate if prevented from freezing and properly made. In the following proportions it will not cost over three cents a quart :—

Dissolve 1 pound of sal soda in 1 quart of hot water, and add to it 4 quarts of lime water; when this setties pour off the clear. Next dissolve 3 ounces of borax in 1 quart of boiling water, and add it to the 5 quarts of clear water. When cold dissolve in it 2 or 3 ounces of pulverized carbonate ammonia. Put it in bottles, and keep it tightly corked.

This fluid makes strong, thick "suds," makes washing less injurious to the hands, and it cleans the clothes with less rubbing. Use 1-2 pint, or less, to about 5 gallons of water; put it, with some soap, into the tub of clothes the night before washing-day, or a short time before boiling the clothes. I think this chemical fluid, among the list of washing compounds, will take "the rag off the bush" —and clean it. TRENTON.

Trenton, N. J., March, 1857.

[Washing fluid made after the above recipe, we have no doubt, will be found an excellent article, and we are much obliged to our correspondent for it.

Many who are in the habit of using washing fluids do not appear to be aware of their nature and specific objects. Why should they be used at all in washing? We answer, simply to provide a slight excess of alkali to combine with the grease and dirt on the clothes. They should be sparingly used, at best, and wholly discarded in washing laces and fine linens.

Good soap suds of sufficient strength makes the best washing fluid for fine white textile fabrics. The chloride of soda makes an excellent fluid for whitening linen that has become yellow in color, and as a washing fluid is inferior to none.

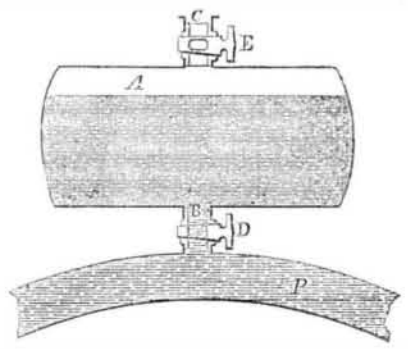
The use of strong caustic alkalies impart a yellowish tinge to fine linens and tends to injure them, and therefore should be used (if at all) with much caution.

Expulsion of Air from Aqueduct Pipes.

We hardly imagined when penning the article on page 208, that it would draw out so simple and admirable a remedy for the difficulty as the one below. We take this occasion to urge on our readers the importance of contributing their knowledge and experience to the great mass of valuable information we are trying to diffuse. If editors or correspondents hesitatingly make suggestions which you can either disprove or confirm by experience, we would cordially invite you to make the effort. Please consider yourselves each personally responsible for any errors in the SCIENTIFIC AMERICAN which remain uncorrected, or for any vacuities which remain unfilled. There is no country more filled with intelligence than this, and certainly no journal of a similar class in the world which has near so large a circulation. Our journal can by the co-operation of each reader be made to attain a degree of usefulness to which we can conceive no limit.

In the device below, although the vessel, A, is described as necessarily of considerable size and perfectly air tight, we conceive it need not necessarily possess either of these qualities to be of great service in many situations. By keeping the cock, D, closed until the air in the pipe becomes troublesome, the leakage of A is of no effect except during the few seconds while D is opened, and if small it will but require to be filled with water and emptied into the pipe several successive times. Even a steam cylinder oil cup and globe, with two cocks as usual, might serve a good purpose with a little care.

MESSRS. EDITORS—The collecting of air in aqueduct pipes, which was so well illustrated in your paper of the 7th inst., is a subject that has been a great puzzle to many, and a fact that has been the cause of a great deal of trouble. The object of this letter is to describe a remedy which is perfectly effectual. I will premise that the mode described by you, the upright pipe, is the simplest and cheapest of any, where it can be used, and where it can be protected from freeling. Another method which can be used to advantage when the bend where the air collects is below the level of the fountain, is an air cock. When the cock is opened, the pressure from the fountain head will drive the air out. But the most troublesome cases are when the pipe acts as a syphon, the air collecting above the level of the fountain; in such cases neither an open pipe or cock can be used, but a device of Mr. Daniel Cushing, a practical mechanic of Lowell, is the only one, I believe, that will answer the purpose.



P represents the aqueduct; A short pipe; B is attached to its upper surface; the upper end of B communicates with a vessel, A, of any convenient size, or material; a ten gallon keg will answer, but a vessel of copper will be the most durable. A pipe, C, is inserted into the vessel. Its operation is as follows :— Close cock, D, and fill the vessel with water through cock E; then shut cock, E, and open D. Now, A being filled, all the air in P will rise into A, and the water of A will keep P filled until A is filled with air instead of water, when A must be again filled as at first.

This apparatus is cheap, simple and efficient, requires no other attention than an occasional examination to see if A contains air or water. If not attended to, it gives notice by the stoppage of the supply of water. It is perhaps needless to say that the work must be done air tight, and that the whole must bs protected from freezing. C. STODDER.

Boston, March 11th, 1857.

Growing Rubber in the United States.

MESSRS. EDITORS.—After a long interval of country life I again open a communication with you, my main object being to present to the American public through the medium of the SCIENTIFIC AMERICAN, the cheering intelligence that the question so long propounded, as to whether there was anything to be found in the wide expanse of our national domain that partook of the nature and characteristics of caoutchouc, or india rubber, may now be safely answered in the affirmative. I have the gratification of being able to state that the article not only exists in our country, but that is a commoh product in all of the States south of latitude 39°. I send you a small specimen of the substance, remarking that it is found in this country in a solid form, instead of the fluid or milky condition in which the ordinary rubber is found, consequently being in minute parts, cohesion of those parts can only be effected by the action of heated rollers, such as are used in all india rubber factories.

The specimen I send you is small and rather ragged, from the cause already stated, the cohesion in this case being effected by the action of a hammer with a heated plate of iron. From a very imperfect and unprofessional analysis I am led to believe that the physical properties of this article and the substance imported are identical. Without pretending to absolute accuracy in my results I think the approximation is C.87·2 H.12·8. The flame resembles the imported article as well as the smell and taste.

"Honor to whom honor" is a motto I sometimes find to fail in the application; lest some other persons should set himself forth as the discoverer of this American product, I shall invite the attention of such to the announcement I now make, and if any one has preceded me in the field, let the fact be known during the coming six months, or I shall take to myself the credit, if any be due. As I before stated, the growth of this substance is general, and though unlike the other, it can easily be reduced to a suitable shape for export or domestic use. JOSEPH E. WARE.

[The sample forwarded looks like the real caoutchouc, and exhibits the same elastic properties, but we do not detect any smell. If it differs from common rubber, it is, for aught we see to the contrary, as likely to be better as worse. Will Mr. W. give us further information?—ED.

Management of Root Crops.

MESSRS. EDITORS—The following plan of growing root crops may be new and useful to some of your readers. Say five acres of ground are to be planted with roots for winter use; prepare the ground early, plow deep to reduce it to a good tilt; harrow, and use it when wanted. In the meantime the weeds will start, but one hot day with the horse hoe will kill them. The land is now ready for sowing, which do, if possible, before rain. Mark out the rows regularly two feet apart for rutabagas, beets, turnips, less for carrots, before sowing; the lot should be restored, and the seed mixed with sand or mold a few days to start it. Get the best seed at whatever price: rutabaga and turnip will grow four or five years old if kept right. Break a few seeds—if dry, reject them, as no oil or vitality is left. But frequently the seed grows and is eaten off by the turnip fly in twenty-four hours, to obviate this, collect the weeds, &c., in three or four heaps at different points over the lot; look out for the wind to smoke your lot, by firing the heaps with the wind; in the evening the smoke will settle and check them. Horse hoe as soon as you can see your rows. You must not wait for the weeds to grow, as the soil requires to be constantly worked in dry weather to keep your plants growing, and they will soon cover the space between the rows. A good horse hoe and seed drill can be got at the agricultural stores.

It is easier to have five acres of roots, averaging twenty-five tuns per acre, than many of the half acre lots producing twenty-five bushels and any quantity of weeds to be pulled by hand, on the broadcast plan. If the lot is not all planted before August, sow turnips (with three or four barrels of bone dust applied at the same time,) or else have cabbage plants in reserve to fill up with. One man and horse will work five acres per day well; one man can set out one acre with the hand hoe per day, six or eight inches apart in the rows; if not sown too thick this is all the hand labor to be done. D. WATSON.

Newark, N. J., March 6, 1857.

Working of Cast Steel.

MESSRS. EDITORS—In addition to what has been said about tempering mill picks, in No. 27 of your valuable paper, I would remark—and a long experience justifies me—that the hammering of the instrument, be it what it will, with even perpendicular strokes, (the anvil and hammer being both hard and smooth) till the article is cold, improves the consequent temper very much. In forging the edge, thickening and shortening must be avoided, as this has the contrary effect of hammering.

Most tools must be tempered, that is, reheated to a certain degree after hardening, and then cooled again, and although the process is more or less familiar to all steel workers, the metal is nsually finished too soft. In tempering, the white natural color of the steel, rubbed bright, will change with the heat about as follows :—

No. 1.	White, tinged with pale yellow,	410°.
2.	Pale yellow	420.
3.	Yellow	450.
4.	Dark yellow	480.
5.	Brown yellow	500.
6.	Purple, tinged with yellow,	520.
7.	Purple	540.
8.	Dark purple	550.
9.	Deep blue	570.
10.	Light blue	590.

Nos. 1, 2, and 3 are good tempers for cast iron, steel, hard stones, &c. I should think No. 1 to be a very good temper generally for mill picks, as also Nos. 2 and 3 are hard enough for any stone if the steel has been treated well. Nos. 4, 5, and 6 are proper for cold chisels, punches, taps, dies, and tools for turning metals; for razors and good penknives, however, this temper is too soft. Nos. 7 and 8 are applicable to a great variety of instruments. Blacksmiths use this temper as a universal commodity—for everything. It is a very tenacious temper, but not very hard. Screw taps, if not intended for steel, turn out first rate; if for steel, Nos. 4 and 5 are proper, and hard enough. Nos. 9 and 10 is usually applied for springs, saws, and an innumerable variety of instruments requiring more elasticity than hardness. Parts and pivots in chronometers, clocks, good watches, and other machinery, come under No. 1. Nos. 1 and 2 is, for me, a most excellent temper, tenacious enough, and causing the edge to endure much longer than the softer tempers. H. Z.

Bloomsburg, Pa., March, 1857.

Night Spectacles.

MESSRS. EDITORS—In a recent article in the SCIENTIFIC AMERICAN you ask the question, "Why may not a pair of spectacles be made to see with in the night?" I have often asked myself the same question. It would be very desirable in some situations, to see clearly when quite dark, when acting as pilot, for exple, on a river steamboats. The idea is practicable. That which avails an owl to see in the dark will also enable a man to see in the night. Herschel could see with the aid of an optical instrument which he constructed, the dial on a steeple clock, a mile distant, when it was so dark that he could see but a few feet with the naked eye. The idea will be put in general practice ere long I think.

J. E. B.

Preserving Wrought Iron Tanks.

MESSRS. EDITORS—A friend is about to build a house. He wants to put a wrought iron tank, or reservoir, in the attic. Can you tell me of a composition with which the inner surface can be covered to prevent t from rusting? Are wrought iron tanks ever used in such situations? If there is a composition which will answer the purpose, will it injure the water for culinary and bathing purposes?

J. R. B.

You will find an wooden tank preferable, unless some extraordinary conditions exist. Use oak planks, painted on the outside. Iron can be partially preserved by a coating of tin or of zinc (galvanized iron) or by paint.

The Steamship Great Eastern.

The London *Artisan* for March says it is intended to launch this mammoth iron ship in June or July next, but as the best tides will be in August, it may be deferred till then. Describing the progress of the details, it remarks :—

"Since our report upon the state of the ship up to the 28th November last, the stempost, with two hawser-holes forged therein, one above the other, as before described, has been erected; and the whole of the iron work of the bows is nearly completed. The stern is now up in place above the knuckle; some castings are being made for the lower part of the stern which prevent the completion of the plating of that portion. These castings will shortly be finished, and the whole of the external iron work of the hull will be erected.

The whole of the main portions of the paddle engines are now in their respective places in the ship, and are being finally fitted together. The two pairs of hoilers in connection with the paddle engines are completed, and fitted in their positions in the ship, and the steam pipes belonging to them are now being put together. The whole of the main portions of the screw engines are now on the works, and the greater part of them, such as the frames, the four cylinders, pistons, condensers, &c., are in their places in the ship. Four out of the six boilers for supplying these screw engines are now on the works in course of fitting, and will shortly be placed in the ship. The whole of the parts of both the paddle and the screw engines, and the donkey engines to the boilers, are constructed, and the whole of the machinery will be completely fitted on board in about six weeks. The screw propeller is finished, and the shafts are all forged and partly turned.

The arrangements for launching the ship have been determined upon, and the work in connection with this is rapidly progressing. Messrs. Treadwell, of Gloucester and Bristol, the contractors, have undertakeu the excavations, piling, and other works necessary for the foundations of the launching ways, and are making active exertions to push on the work."