

bell, the watch and the sander, pass through the water, and along the deal and flannel to the ear.

It must be observed, that a body in the act of sounding is in a state of vibration, which it communicates to the surrounding air—the undulations of the sound affect the ear, and excite in us the sense of sound. Sound of all kinds, it is ascertained, travels at the rate of fifteen miles in a minute; the softest whisper travels as fast as the most tremendous thunder. The knowledge of this fact has been applied to the measurement of distances.

Suppose a ship in distress fires a gun, the light of which is seen on shore, or by another vessel, twenty seconds before a report is heard, it is known to be at a distance of twenty times 1,142 feet, or little more than four and a half miles.

Again, if we see a vivid flash of lightning and in two seconds hear a tremendous clap of thunder, we know that the thunder cloud is not more than 760 yards from the place where we are, and we should instantly retire from an exposed situation.

DISCOVERY IN TANNING.—We are informed by a correspondent from New Oxford, Pa., that Mr. William H. Rosensteel, of that place, has discovered a new and valued improvement in the mode of tanning leather, which has been tried for nine months, and which, it is said, will save "one-fourth of the bark and make the stock weigh at least three pounds more per hide, tanning in one-third of the usual time, and making a better looking article." These are very important improvements, especially as only one-fourth of the customary number of vats are employed, consequently no less than one-half of the usual labor is saved. We are not able to describe the process, but our correspondent is one on whom we place every confidence in what he asserts.—*Scientific American*.

SELF-RELIANCE.—The success of individuals in life, is greatly owing to their early learning to depend upon their own resources. Money, or the expectation of it by inheritance, has ruined more men than the want of it ever did. Teach young men to rely upon their own efforts, to be frugal and industrious, and you have furnished them with a productive capital which no man can ever wrest from them.

RECIPES, &c.

TO MAKE RICE BREAD.—Take one pound and a half of rice, and boil it gently over a slow fire in three quarts of water about five hours, stirring it, and afterwards beating it up into a smooth paste. Mix this while warm into two gallons, or four pounds of flour, adding at the same time the usual quantity of yeast. Allow the dough to work a certain time near the fire, after which divide it into loaves, and it will be found, when baked, to produce twenty-eight or thirty pounds of excellent white bread.

ADULTERATIONS in articles of food are so common, and fraught with such dangerous consequences, that we shall supply the processes by which they may be easily detected. Whenever numerous member of a family, after having partaken of the same kind of food are similarly affected by low pains, nausea, or relaxation, there is grave ground for suspicion that impure food has been taken. In such cases, it is alike a matter of individual protection, and public duty, to investigate the subject, and make any discovery of fraud widely known.

ADULTERATION OF SUGAR.—If brown sugar be adulterated with sand, (a very common cheat practised by unprincipled dealers,) it may be detected by taking a glassful of clear water, and dissolving a quantity of the suspected sugar therein. If sand, or any similar substance be present, it will fall to the bottom after standing some time,

TO DISCOVER WHETHER BREAD IS ADULTERATED WITH ALUM.—The bread must be soaked in water, and to the water in which it has been soaked, a little of the solution of muriate of lime must be added; upon which, if any alum be present, the liquid will be pervaded with milkiness; but if the bread be pure the liquid will remain limpid. Rationale: sulphuric acid has a stronger affinity for lime than for the alumina and potass, with which it forms alum: it therefore quits those bodies to form sulphate of lime with the lime of the test, which produces the milkiness.

Another method.—Run into the crumb of a loaf one day old, the blade of a knife considerably heated; and if adulterated with alum it will show its unwholesome adherences on the surface; and it may be further detected by the smell.

TO DETECT THE ADULTERATION OF BREAD BY PLASTER OF PARIS, &c.—Bone-dust or plaster of Paris may be discovered by slicing the soft part of a loaf thin, and soaking it in a large quantity of water in an earthen vessel, placed over a slow fire, three or four hours. Then having poured off the water and the pap, the obnoxious matter will be found at the bottom.

TO DETERMINE WHETHER WHEAT FLOUR OR BREAD BE ADULTERATED WITH CHALK.—1st.—Mix with the flour to be tried a little vitriol; if chalk or whitening be present, an effervescence (caused by the discharge of the carbonic acid of the chalk) will take place; but if the flour be pure no effervescence is produced. 2nd. Pour boiling water on some slices of bread, and pour into the water a little sulphuric acid; if there be chalk in the bread an effervescence will ensue.

TO EXTINGUISH A FIRE IN A CHIMNEY.—So many serious fires have been caused by chimneys catching fire, and not being quickly extinguished, that the following method of doing this should be made generally known. Throw some powdered brimstone on the fire in the grate, or ignite some on the hob, and then put a board or something in the front of the fire-place, to prevent the fumes descending into the room. The vapour of the brimstone ascending the chimney, will then effectually extinguish the soot on fire.

A GOOD GARGLE FOR SORE THROAT.—Tincture of myrrh, 2 drachms; common water, 4 ounces; vinegar, half-an-ounce. Mix.

MACASSAR OIL TO MAKE THE HAIR GROW AND CURL.—Olive oil, 1 pound; oil of origanum, 1 drachm; oil of rosemary, 1½ drachm. Mix.

REMEDY FOR A SPRAIN.—Take of camphorated spirit, common vinegar, spirits of turpentine, of each one ounce.

TO PREVENT THE SMOKING OF A LAMP.—Soak the wick in strong vinegar, and dry it well before you use it; it will then burn both sweet and pleasant, and give much satisfaction for the trifling trouble in preparing it.

SCOURING BALLS TO REMOVE GREASE, &c., FROM CLOTH.—Soft soap and Fullers' earth, of each half-a-pound; beat them well together in a mortar, and form into cakes. The spot first moistened with water, is rubbed with a cake, and allowed to dry, when it is well rubbed with a little warm water, and afterwards rinsed or rubbed off clean.

WET CLOTHES.—Handle a wet hat as lightly as possible. Wipe it as dry as you can with a silk handkerchief; and when nearly dry, use a soft brush. If the fur stick together in any part, damp it lightly with a sponge dipped in beer or vinegar, and then brush it till dry. Put the stick or stretcher into a damp hat, to keep it in proper shape. When a coat gets wet, wipe it down the way of the nap with a sponge or silk handkerchief. Do not put wet boots or shoes near the fire,