

SPECIAL POISONS.

Arsenic, rat poison, Paris-green, &c.

Bug poison, corrosive sublimate.

Tobacco.

REMEDIES.

Give milk and raw eggs abundantly, lime water, or flour and water.

White of egg mixed with water frequently, and milk in the intervals.

Strong tea and coffee, and hot applications to the body and limbs.

INSENSIBILITY.

Persons become giddy and and fall insensible from two directly opposite causes.

First.—A deficiency of blood in the brain, or fainting, indicated by death-like pallor, and a cold, clammy skin.

Treatment.—Put the person upon the back with the head as low as the body, or even lower, dash cold water in the face, and give access to plenty of fresh air.

Second.—Excess of blood in the brain or apoplexy. The face is livid, the eyelids puffed, the breathing difficult.

Treatment.—Loosen everything around the neck, place the person in a sitting position and apply cold to the head "Till the Doctor comes."

BURNS AND SCALDS.

These should always be regarded as very serious accidents, especially when considerable extent of surface is involved, even if the depth of the injury is but trifling.

The indications of treatment are:—

First.—*Stop the fire.* Immediately envelop the sufferer with a shawl, coat, piece of carpet, anything to exclude the air, and thus extinguish the flame. Next pour on plenty of cold water (and do the same in case of scalds), for the cinders or boiling water in the clothing may be eating into the flesh.

Second.—*Remove the clothing.* With a sharp knife or pair of scissors, cut through all the garments so that they will readily fall off the body. Never undress one burned or scalded, for in so doing large portions of injured skin are often removed, and in consequence, suffering is increased, and the hope of recovery dimmed.

Third.—*Put the patient into a warm bed and exclude the air from the wounds.* To exclude the air apply cotton rags or cotton wool saturated with caron oil (equal parts of linseed oil and lime water), or warm milk and water (equal parts) with a tea spoonful of baking soda to the quart, or fine flour.

Fourth.—*Give the patient no stimulant but hot coffee and milk "Till the Doctor comes."*

RECIPE FOR MAKING COMPOSITION BLACK-BOARDS ON THE WALLS OF SCHOOL-ROOMS.—For 20 square yards of wall—take 3 pecks of mason's putty, 3 ditto of clean sand, 3 ditto of ground plaster; 3 lbs. lampblack, mixed with 3 gallons of alcohol. The alcohol and lampblack must be mixed before it is put into the plaster. Now rapidly mix the materials and put them on as hard finish is put on. A narrow trough should also be placed below the black-board to receive the chalk and wiper.

THE TONIC SOL-FA METHOD OF SINGING.

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The tones of the scale having been learned, and a readiness in producing them when taken promiscuously on the modulator, acquired, the student may proceed to deal in the same manner with those above and below it. The same relationship exists in every

major scale, that is, the semitones or half tones are between *m* and *f*, *t* and *d*; the others being full tones. He need not for practice, at this stage, be particular to have an exact standard for the key-note, *doh*, as a piano or organ may not be always available. Instructions for obtaining the correct key-note are given below.

In the modulator *d, m, s*, are printed in Roman capitals, to indicate that when sounded simultaneously they produce the harmony of the strong chord; *r, f, l*, in Italic capitals, to show that they form the weak, plaintive or leaning chord. In harmony combinations of these tones are taken in several ways, according to scientific rules, and varied to suit the taste of the composer. The Tonic Sol-fa system enables a learner to study harmony almost from the outset, while in the staff system this delightful acquirement is kept back from the pupil until he has attained considerable proficiency.

(2) Persons accustomed to sing know that a tune may be sung too high or too low to suit some notes in it; the intervals are correct but the pitch of the voice is at fault. A lower or a higher key-note is required to give free scope. This plainly indicates that there is such a thing as a movable key-note, for the voice ranges with the same effect, as far as the tune is concerned, while the pitch differs; for instance, the National Anthem may be sung by four or more persons in just so many different keys, but the air of the tune is identical in every case. That being so proves clearly that we need not learn fourteen scales, as in the old notation, *r* have only to make ourselves familiar with one representation of the scale, and that suffices for every degree of pitch. To ascertain this pitch, or in other words, to find the key-note, we must have some standard by which it is determined. A tuning-fork that gives 512 vibrations in a second will produce *C* in the upper octave, or *C'*, and as the scale of *C* is the standard or natural scale, any note in it may be taken as the pitch-note or key-note which the music requires. The Tonic Sol-fa scale may then be applied to the standard, and *C* being determined by the tuning-fork any other note can be found from it. For example, suppose we want to sing a tune in Key *G*. The

tuning-fork gives us *C'*, which we call *d'*, and singing down the scale we stop at *s*, and changing the name of that sound into *d* we have the key-note of *G*. It is then well to sing that scale or its chords, to familiarize our ear with its tone relationship, previous to commencing the tune. In the extended modulator which is given in this article, the key of *G* is the first one on the right, or the first sharp key. On comparing it with the natural key in the centre it will be observed to differ from it only in *t* which is higher up than *f* to give the needful semitone between *t* and *d*; that is the same as making *f* a half note higher, which in the old notation is indicated by a sharp, placed on the top line of the staff, meaning that all *F*'s are to be made sharp. In the key of *F*, or when *F* is *d*, as

in the first column to the left, the difference between it and the key of *C*, is that as the semitone must come between the third and fourth notes in the scale, *t* is half a note too high, and a flat is used to show that all the *B*'s must be a semitone lower; and this symbol is placed on the middle line of the staff which is the position of *B*. Compare the other keys in the same manner. In the Tonic Sol-fa we have to take no notice of what notes are sharpened or flattened in the different keys, we find the pitch of the key-note and the tones of the scale fall into their natural places. Thus the mind is not burdened with thinking of where the sharps and flats ought to come, nor perplexed with the counteracting influences of naturals, double sharps, and double flats.

The chromatic scale, accidentals, and transitions will be explained hereafter.