

LIGHT-HOUSES OF THE LOWER ST. LAWRENCE.

(See pages 345, 348 & 349.)

Owing to the courtesy of R. S. M. Bouchette, Esq., late Commissioner of Customs, we are enabled to present our readers with a series of light-houses in the Lower St. Lawrence, which, we believe, will be regarded as of very general interest. The letter-press, likewise from Mr. Bouchette, is accurate and reliable.

BELLECHASSE LIGHT-HOUSE, bearing S. $\frac{1}{2}$ mile. Lat. $46^{\circ} 56'$ north; long. $70^{\circ} 46' 00''$ west. Fixed light, white, catoptric; tower, hexagonal, white; height of the centre of the lantern above high water, 70 feet; height of the tower from its base to vane, 30 feet. May be seen in clear weather a distance of 13 miles.

LIGHT-HOUSE, POINTE DES MONTS, bearing N. N. W. $\frac{1}{2}$ mile. Lat. $49^{\circ} 10' 35''$ north; long. $67^{\circ} 21' 55''$ west. One light, a fixed one, white, catoptric; height of the focus of the lantern above high water, 100 feet; height of tower from base to vane, 75 feet; circular tower, white. There is here a depot of provisions for the shipwrecked, and a cannon is fired every hour during fog or heavy snow-storms.

LIGHT-HOUSE, WEST POINT, ANTICOSTI, bearing S $\frac{1}{2}$ E. 1 mile. Lat. $49^{\circ} 52' 30''$ north; long. $64^{\circ} 31' 40''$ west. One fixed light, white, dioptric, 2nd order; height of the focus of the lantern above high water, 112 feet; height of tower from base to vane, 109 feet; tower circular, white. There is here a depot of provisions for the shipwrecked. A cannon is fired every hour during fogs or heavy storms.

LIGHT-HOUSE, S. W. POINT, ANTICOSTI, bearing about S. E. by E. $\frac{1}{2}$ a mile. Lat. $49^{\circ} 23' 45''$ north; long. $63^{\circ} 35' 46''$ west. White revolving light every minute; height of the focus of the lantern above high water, 100 feet; height of tower from base to vane, 75 feet. Tower circular, white. Character of apparatus is catoptric.

LIGHT-HOUSE, SOUTH POINT, ANTICOSTI, bearing distance 1 mile. Lat. $49^{\circ} 4' 0''$ north; long. $62^{\circ} 15' 10''$ west. Flash light, white, revolving every 20 minutes; height of the focus of the lantern above high water, 75 feet; height of tower from base to vane, 54 feet; tower hexagonal, white; the light is catoptric. A steam fog-horn is here sounded during fogs and storms for 10 seconds in every minute, thus leaving an interval of 50 seconds between each sound.

ESCOMINAC LIGHT-HOUSE, bearing north, distant 2 miles, entrance of Miramichi Bay and harbor. From on board the Government SS. *Napoleon*, July 25, 1877, 2.30 p. m. Lat. $47^{\circ} 4' 32''$ north; long. $64^{\circ} 47' 30''$ west. Fixed white light; height of the focus of the lantern above high water, 70 feet; height of the light-house from base to vane, 58 feet. A fog-horn, situated 300 feet west of the tower, is sounded in foggy or snowy weather 10 seconds in every minute, with interval of fifty seconds between each continuous sound of the horn. In calm weather or with a favorable wind, the horn is heard at from 9 to 11 miles; when the wind is unfavorable, at from 3 to 6 miles. The light is dioptric, 3rd order.

SALT AND LIME FOR TOP-DRESSING.

Common salt is very useful as a top-dressing, especially on pasture land; but also on crops of every description. When applied to grass, it greatly improves the quality, besides destroying the worms and other insects. It has also the property of strengthening the straw of cereal plants, and is of great use to crops of mangolds, the roots of which contain a larger proportion of salt. When lime is used it should always be applied to the surface of the soil, as its tendency is to sink with the moisture from above, being worked gradually into the subsoil, which is not the case with vegetable or animal manures, whose decay renders them subject to evaporation instead of subsidence. Both these substances will largely increase, and otherwise improve whatever crops they are applied to. A larger dressing is needed for land that is under improvement, and on which no lime has been bestowed for a long period. Strong clay soils also demand a larger dose than medium or light soils. All our stiff clay soils, old pasture lands, says Brown, peat soils, and all soils containing a quantity of vegetable matter, require a regular manuring of lime, and are much benefitted by it. It is of great utility also on soils resting on the granitic formation. But whilst lime is thus beneficial everywhere it can be applied, it is of special utility to the wheat crop, the goodness of which depends upon the proportion of lime that has been bestowed upon it, or that is naturally contained in it.

SURGERY IN THE FACTORY.

The rules given below, for stopping bleeding in the case of severe and serious wounds, are extracted from a letter by Mr. H. W. Page, M.C., Cantab., in the *Lancet*. A number of tourniquets have been in use for some years on the London and North-Western Railway, and when recently it was found necessary to replenish them, it was deemed advisable to provide the elastic tube or Esmerch's band instead, especially as the tourniquet had been known to fail. During a trial of some months the tube has been found so much superior that further supplies are being prepared, and the following directions have been compiled by Mr. Page, for the guidance of workmen and others engaged in factories and shops where severe accidents are frequently met with. The necessity for some simple appliance is well known, and Mr. Page tells us that men have been brought to the hospital dead, from hæmorrhage that might have been stopped by the application of a thumb or finger:—

HOW TO STOP BLEEDING WITH OR WITHOUT THE ELASTIC TUBE.

Rule 1.—When a leg or an arm is severely wounded there may be no bleeding; in this case raise the limb on cushion above the level of the body, and carefully watch the wounded part so that the first bleeding may be seen.

Rule 2.—Should there be much bleeding, put on the elastic tube as soon as possible (see Rule 3); but if you have not got the tube near, raise the limb as high as you can above the level of the body, and act as follows:—

(A) If blood seems to come smartly from one point, place your finger or thumb firmly on that point, and stop up the place from which the blood is coming.

(B) If you cannot see whence the blood flows, then roll up your handkerchief or cap, and with it press firmly on the bleeding part, not forgetting to keep the limb raised up.

Note.—In case of light bleeding, either of these means just given (Rule 2, A, and B) will generally be sufficient, the limb being kept raised up.

Rule 3.—There is no difficulty whatever in putting on the elastic tube. Let the limb be held up as high as possible, then stretch the tube to the full, wind it while stretched round and round the bare limb, and fasten the hooks at the ends to each other.

Note.—If bleeding still goes on after the tube has been put on, you may be sure it is not tight enough. You had better, therefore, with the limb still raised, take off the tube and apply it again more tightly than before.

Rule 4.—The tube must be placed above the wounded part—that is, between it and the body.

(A) When the leg or foot is injured, apply the tube just above the knee; if the knee or thigh be wounded, then place it higher up on the thigh.

(B) If the hand or wrist be wounded, put on the tube below the elbow; if blood come from the elbow or arm, then put on the tube higher up near the shoulder.

Rule 5.—If the limb be wounded so near the trunk that you cannot put on the tube, then you must do your best to stop the bleeding by one of the plans named in Rule 2.

Rule 6.—If the injured man has to be carried far, either to an hospital or his home, bear in mind—

(A) To keep him warm with clothing.

(B) To keep the limb continuously raised on cushions.

(C) To look out for bleeding.

(D) Not to give too much brandy, especially if you have not been able to put on the tube.

It may be well to add that the rules are printed in large type for general use and instruction, and that each elastic tube is kept in a small tin case, in the lid of which the rules are to be found.

TESTS FOR BEESWAX.—At a recent meeting of a German Chemical Society, Herr C. Schmidt, after having called the attention of the society to the frequent adulteration of beeswax with resin, described a modification of the so-called Donath's method of detecting the presence of such adulterating compounds, viz: Five grains of the beeswax to be examined is placed in a vessel with five times its bulk of nitric acid (sp. gr. 1.32 to 1.33) and heated to a boiling point, and permitted to remain at this temperature for a moment; an equal volume of cold water and sufficient ammonia to give it a marked ammoniacal odor is then added. If this alkaline solution contains but pure wax, it will be of a yellow color; while if resin be present, it will, on account of the nitrogen compounds formed, be of a more or less intense reddish-brown color. Since this test is a colorimetric one, it is well to prepare a solution with chemically pure wax to be kept as a standard.