In my nursery, fruit trees look well. Heavy MULCHING in October, mutual protection by the different kinds of trees protection by the numerous rows of currants, have helped the pear, apple, plum, cherry trees, etc. to resist a cold of 28o to 32o below zero which great cold succeeded a temperature of 36o to 40o above in January. The change was so sudden !! At noon, the thermometer stood at 40o above zero; it was 15o below at about 9 p. m. and 28o to 32o according to exposure at about 7 in the morning. There was no snow on the ground then, and we had none until the 22d of January All the strawberry buds are dead. Much of the raspberries have not grown. Currants have little fruit. There is no fruit here, and very few apples.

Apple trees were in bloom (very little though) from the 18th to 24th of June, a month later than usual.

The loss is immense to farmers and to all orchard owners, it is even greater than in 1856 and 57. Every one of them is discouraged. Who will help them?

A. DUPUIS.

July, 13th 1897.

CEMENTS, MORTARS, PAINTS AND GLUES.

I.—CEMENT AND MORTAR.

CEMENTS FOR IRON.—1. Sal ammoniac, 2 ounces; sulphur, 1 ounce; clean ironborings or filings reduced to powder, 12 pounds; water enough to form a thin paste.

2.—Sal ammoniac, 2 ounces; iron-filings, 8 pounds; sufficient water.

3.—1 or 2 parts of sal ammoniac to 100 of iron-filings. When the work is required to set quickly, increase the sal ammoniac slightly and add a small amount of sulphur.

4.—Iron-filings, 4 pounds; pipe-clay, 2 pounds; powdered potsherds, 11 pounds; make into a paste with moderately strong brine.

5.—Equal parts of red and white lead, mixed into a paste with boiled linseed oil. Used for making metallic joints of all kinds.

6.—To 4 or 5 parts of clay, thoroughly dried and pulverised, add 2 parts of iron-filings, free from oxide, 1 part of peroxide of manganese, ½ of sea salt, and ½ of borax; mix well, and reduce to a thick paste with water. Use immediately. Expose to warmth, gradually increasing almost to white heat.

7.—Sifted coal ashes, 2 parts, and common salt, 1 part. Add water enough to make a paste and apply at once. This is also good for stoves and boilers, as it stands heat.

BOILER CEMENTS.

8.—Chalk, 60 parts; lime and salt; of each, 20 parts; sharp sand, 10 parts; blue or red clay and clean iron-filings, of each, 5 parts. Grind together and calcine or heat.

9.—Powdered clay, 6 pounds; iron-filings, 1 pound. Make into a paste with linseed oil.

10.—Powdered litharge, 2 parts; silver sand and slaked lime, of each, 1 part; boiled oil enough to form a paste.

These cements are used for stopping leaks and cracks in boilers, iron pipes, stoves, etc. They should be applied as soon as made.

TAR CEMENT.

11.—Coal-tar, 1 part; powdered slate (slate flour) 3 or 4 parts; mix by stirring until thoroughly incorporated. Very useful for mending watering-pots, barrels, leaky sash, etc. It remains somewhat elastic. It does not adhere to greasy surfaces. It will keep for a long time before using.

COPPER CEMENT.

12.—Beef blood thickened with sufficient finely powdered quick lime to make it into a paste is used to secure the edges and rivets of copper boilers, kettles, etc. Use immediately.

FIREPROOF OR STONE CEMENT

13.—Fine river sand, 20 parts; litharge, 2 parts; quick lime, 1 part; linseed oil enough to form a thick paste. Used for walls and broken stonework.

EARTHENWARE CEMENT.

14. Grated cheese, 2 parts; powdered quick lime, 1 part; fresh white of egg enough to form a paste. Use as soon as possible.

For fine earthenware, liquid glue may be used.

CEMENT FOR GLASS.

15.—Methylated spirit (wood alcohol) to render liquid a half dozen pieces of gum-mastic the size of a large pea; in another bottle, dissolve the same quantity of isinglass, which has been soaked in water and allowed to get surface dry, in 2 ounces of methylated spirit; when the first is dissolved add 2 pieces of gum-galbanum of gum-ammoniac; apply gentle heat and stir, add the solution of insinglass, heat again and stir. Keep in a tightly stoppered bottle, and when used set in boiling water.

SEALING CEMENTS.

16.—Beeswax, 1 pound; resin, 5 pounds. Stir in sufficient red ochre and Brunswick green, or lampblack, to give the desired color.

17.—Black pitch, 6 pounds; ivory-black and whiting, of each, 1 pound. Less attractive than the former.

These are used for sealing up bottles, barrels, etc.

MORTAR FOR HEAVY RUBBLE-WORK OR BRICKWORK.

18.—1 part of slaked lime, 2 parts of sand, and ½ part of blacksmith's ashes; for brickwork, 1 part of lime, 2 of sand and one of blacksmith's ashes.

GARDEN OF THE FARM.

GREENHOUSE.—The best season for repotting different plants is just as new growth is forming in spring; therefore no time should be lost in getting a good heap of compost ready, as well as having all spare pots washed, and crocks broken into different sizes for drainage. The following is a compost which will suit all kinds of greenhouse plants, ferns included:—To each barrowful of loam add one-eighth of half-decayed leaves and one-eighth of sharp road grit, or sharp sand, about a 7-inch potful of bone dust, and a good dusting of wood-ashes or fine charcoal. The loam, if possible, should be obtained from old pasture land, containing plenty of fibre, which should be pulled to pieces, and the fine soil shaken out, and, by using the crushed bones, manure is dispensed with, which, if not properly selected and prepared, is not always suitable for potting purposes. Many are of the opinion that ferns, especially the favorite maidenhair, will not succeed unless potted in the best peat and silver sand, and, as these are not always obtainable, the plants often remain unpotted until they die. The finest maidenhair ferns I ever saw were grown in nothing but rich loam and sharp sand. (1) The advantage of loam for these plants, especially when grown in small pots is that it contains more holding properties than peat, and will therefore produce stouter fronds and sustain the plants for a longer period if fed with liquid manure during the growing season. This will be one of the first plants to receive attention, and must be potted as soon as it is observed that the young fronds are on the move, and before they have pushed through the old ones, which often causes them to come ill-formed, with weak stems, which eventually fall over the side of the pots instead of standing erect. To secure well-shaped, handsome plants all the old fronds should be cut off at once to allow the young ones room to develop properly and to grow evenly. In repotting turn the plants out of their pots, and with a sharp-pointed stick carefully disturb the roots and shake out a good portion of the old soil. Remove all the old crocks that are matted with roots, and gradually reduce the size of the ball to nearly one-half, afterwards trimming off the longest roots with a sharp knife. If the soil is dry in the centre of the ball, steep them in water for half-an-hour, and allow them to drain well before they are potted. The plants then can either be potted in the same size pots they were previously in, or, if larger plants are required, marroot room must be given. Small plants growing in 2 and 3 inch pots are very useful for table decoration, and, although seedlings make the most compact plants, where these are not obtainable larger plants can be cut into small pieces and potted in small pots singly. The soil should be fairly moist at the time of potting, and should be made quite firm about the roots, and by keeping the stage well damp where the pots are standing little watering will be required until new roots form in the fresh soil. Fuchsias that have been kept dry during the winter should have their longest shoots shortened back in readiness for starting them into growth any time after the end of the present month. Begonias (tuberous-rooted varieties) should be looked over; all the old soil should be shaken from their roots, and the bulbs, if early blooms are not required, should be kept cool and dry for another month before they are started into growth. A few of the strongest bulbs might be started now, however, with every chance of the plants proving useful during the early summer months. Plunge the bulbs in shallow pans or boxes filled with sandy soil, and keep them at the warm end of the greenhouse. As new roots and leaves appear they should be potted, using small pots at first, giving the plants a shift into larger ones as they require it.

"Montreal Witness."

(1) With lots of water: you should see the ferns in the dripping Devonshire lanes!—Ed.

SAN JOSE SCALE IN CANADA.

Grimsby, Ont., June 12.—The deputation sent by the Dominion and Provincial Ministers of Agriculture to investigate the presence of the San Jose scale in an orchard near Niagara, report that they have found the scale in large numbers. They say that unless prompt measures are taken for the immediate destruction of this terrible pest it will spread throughout the whole of southern and western Ontario and utterly ruin the prospects of Ontario fruit-growers. They advise vigorous action being taken against the importation of nursery stock from the United States, excepting under the most rigorous inspection, and at one or two points only. They further advise that the importation of fruit from states where the orchards are known to be infested be also prohibited.

GROW BERRIES NEXT YEAR!

The farmer's berry garden should be decided upon now. Let the following months be given to reading good papers. Be prepared to adopt the valuable practical advice they are sure to give you. Mature plans for the season; select your plants; order them early; and let this be your first work in the spring.

One-quarter acre of good land, set with proper varieties and well cultivated, should produce from 20 to 40 bushels of berries every season. This would give an ordinary family fresh berries every day in season and a liberal supply, canned, preserved or dried during the entire year.

Plants for such a garden may be purchased direct from a reliable grower, for $10 or $15, and should include the following:

300 strawberry plants, early, medium and late.

100 blackberry plants, early and late.

50 black raspberry plants, early and late.

50 red raspberry plants, early and late.

75 currants, red and white, early and late.

25 gooseberry, early and late.

18 grapes, three varieties, early.

Multiply this list by four for one acre, or by twenty for five acres, and you have the right proportion for a continuous supply of different varieties for market purposes.

Good berries may be grown in any soil—sand, clay, muck, loam, gravel, or a combination of each—provided the same be highly fertilized, well drained and thoroughly cultivated.

Early fruits are usually most desirable, and light soils with southern exposure are best adapted for that purpose. Light soil, however, require heavy fertilizing, more mulch in summer, are more liable to injury by drouth, and produce lighter crops. Clay soil must be well drained, is more difficult to prepare, matures later crops and is not so favorable for winter protection. The ideal berry ground would be, first, a rich sandy loam with clay subsoil. Second, a dark loam or gravelly loam mixed slightly with clay, and a clay subsoil, all having a southerly or eastern slope.

Any of these mixed soils will make good berry gardens by applying good barnyard manure, which contains all the essential elements required. When such manure cannot be obtained, com-