

If we have any reputation as a judge of weather to come, a long practice of attentively observing the formation and changes of these clouds, combined, of course, with due attention to instruments and other things, has been the cause of our knowing, perhaps, a little more of the coming changes than some of our neighbours.

REFRIGERATING CHAMBERS.—The principle, on which refrigerators are cooled, is this: compressed air being thoroughly cooled and then allowed to expand, becomes cold enough, in the act of expansion to freeze water. To accomplish this, the air is taken by air-pumps from the meat-chamber and then compressed; after which it is cooled by jets of water and passed through a system of tubes. After passing through the expanding apparatus, the air is discharged, at the rate of 40,000 cubic feet an hour, into the meat chamber. The air, thus managed, is drier and this system works better than was commonly the case with the first experiments of preserving meat, etc., through a long voyage by means of blocks of ice.

RENTS IN THE LAURENTIDES.—It sounds impossible, but it is true! A young friend of ours, who has been passing the summer in a "health resort" at St. Hippolyte (1) de Kilkenny, tells us that the house in which she was staying, with 120 arpents of land, was let to the tenant for twenty dollars a year. Heavens! what a chance for a good shepherd to hire four or five contiguous farms, throw them into one, and make a real sheep-farm of the whole.

Government Notices, &c.

IMPROVEMENT OF THE ROADS.

The improvement of the roads in the rural parts of the Province of Quebec becomes more and more a duty incumbent on the rate-payers. People in general have no idea of the enormous losses incurred by the absence of easy modes of communication. Our neighbours have been before us in the improvement of their roads, and it is high time that our province should adopt a vigorous policy, and emerge from the state of inferiority in which it now supinely rests.

The present administration proposes to afford active support to the rural municipalities, by helping them to acquire the improved machines for the mending of their roads.

With this in view, it will place at the disposal of each county, during the current year, a contribution of \$3,000.00, to be divided into shares of \$125.00, \$100.00, and \$75.00, between the three first municipalities that shall inform the government, by a resolution of the municipal council, that it is their intention to buy one of these machines, and shall, in reality, become possessors of one during the present season.

In order to acquire a right to the government grant, the following conditions must be complied with:—

1. The machine must be approved of by the government; 2. A report must be sent in to the Department of Agriculture at the end of the season, stating the length of road

(1) The correct spelling. It means simply "Coachman."—Ed.

that has been repaired, which is not to be less than two miles, to give the municipality a right to the grant;

3. The machine must continue to be the property of the municipality for at least three years, and shall not be sold without permission from the government during that term.

4. The working of the machine shall be carried on at the expense of the municipality, the government, however, agreeing to send, temporarily, an instructor, in case of necessity, to any municipality that shall ask for the services of one

"From the French."

(Signed), F. G. M. DECHENE,

Commissioner of Agriculture.

ROLLERS OF HARD-MAPLE FOR WALL-PAPER FACTORIES.

London, July 9th, 1897.

To M. G. A. Gigault, Asst. Commissioner of Agriculture, Quebec.

Dear Sir,

I have lately received, from M. G. P. Nadeau, of Stanfold, a request for information respecting the consumption in England of rollers made of hard-maple wood as used in the manufacture of wall-papers. He had heard that there was a demand for this article on the English market. As hard-maple is plentiful in the province of Quebec, and as many of its people may be interested in the question, I send you the information I have obtained on this subject.

"Mr. Jas. Barret, who is making rollers for many manufacturers of wall-papers, writes as follows:—The maple rollers that I use are 2 ft. 2 in. long and 5½, 6½, and 7½ inches in diameter, with a central vacant space of 2 in., which should be bored quite straight. The heart of the wood should be cut out. The trunk of the tree, I believe, is first split; then the wood is roughly turned to the proper size. At present, I have enough in stock; but I should be glad to know what would be the cost, delivered here, of each size of rollers made of Canadian hard-maple. I am paying 25 to 26 cts. for a roller of 5½ in.; 37 cts. for 6½ in., and 50 cts. for 7½ in. I buy a thousand, or more, at a time, and I keep them 3 years in store before using them. My purchases depend upon the samples and prices sent me."

Mr. Barret's address is 226, Old Ford Road, London. If any persons in Canada would like to do business with him, he will be happy to hear from them.

There is no doubt about there being a great demand for these rollers in different parts of the country.

Faithfully yours,

HARRISON WATSON.

Curator of the Museum of the Imperial Institute.

CONCRETE, ETC., FOR FLOORS BORDERS AND WALKS—GROUT FLOOR.

(Extracts from "The Horticulturist's Rule Book" by L. H. Bailey).—1.—To secure a good grout or cement floor, make a good foundation of small stones or brick bats and cover 3 or 4 inches thick with a thin mortar, made of 2 parts sharp sand and 1 part water-lime.

2. Fresh powdered lime, 2 parts, Portland cement, 1 part; gravel, broken stone, or brick, 5 parts. Mix with water to a liquid consistency, and let it be thrown forcibly, or dropped into its position. It should be well beaten or rammed to render it solid. A "skim" of thin, rich mortar may be placed on top as a finish.

PAINTS AND PROTECTIVE COMPOUNDS

HOME-MADE WASHES FOR FENCES AND OUT-BUILDINGS may be made by various combinations of lime and grease. The following are good formulas:—

1.—Slake fresh quicklime in water, and turn it to a paste or paint with skim-milk. The addition of 2 or 3 handfuls of salt to a pail of the wash is beneficial.

2.—2 quarts skim-milk, 8 ounces of fresh slaked-lime, 6 ounces of boiled linseed oil, and 2 ounces of white pitch, dissolved in the oil by a gentle heat. The lime must be slaked in cold water and dried in the air until it falls into a fine powder; then mix with ¼ part of the milk, adding the mixed oil and pitch by degrees; add the remainder of the milk. Lastly, add 3 pounds of the best whiting and mix the whole thoroughly.

3.—Slake ½ bushel of lime in boiling water, keeping it covered; strain and add brine made by dissolving 1 peck of salt in warm water, and 3 pounds rice flour, then boil to a paste; add ½ pound whiting and 1 pound of glue dissolved in warm water. Mix and let stand for a few days before using.

FIRE PROOF PAINT.

4.—In a covered vessel, slake the best quicklime, then add a mixture of skim-milk and water, and mix to the consistency of cream; then add 20 pounds of alum, 15 pounds of potash and 1 bushel of salt to every 100 gallons of the liquid. If white paint is desired, add to the above 6 pounds of plaster of Paris.

FOR DAMP WALLS.

5.—¾ pound of hard soap to 1 gallon of water. Lay over the bricks steadily and carefully with a flat brush, so as not to form a froth or lather on the surface. After 24 hours, mix ½ pound of alum with 4 gallons of water; let it stand 24 hours, and then apply it in the same manner over the coating of soap. Apply in dry weather.

6.—1½ pound resin, 1 pound tallow, 1 quart linseed oil. Melt together and apply hot, two coats.

WATER-PROOFING PAINTS.—FOR LEATHER.

7.—½ pound of shellac, broken into small pieces in a quart bottle; cover with methylated spirit (wood alcohol), cork it tight, put it in a warm place, and shake well several times a day; then add a piece of camphor as large as a hen's egg; shake again and add one ounce of lampblack. Apply with a small paint-brush.

8.—Put into an earthen jar ¼ pound of beeswax, ½ pound of neat's-foot oil, 3 or 4 table spoonfuls of lampblack, and a piece of camphor as large as a hen's egg. Melt over a slow fire. Have both grease and leather warm and apply with a brush.

9.—1 pint of linseed oil, ½ pound nut-ton snet, 6 ounces of clean beeswax, and 4 ounces of resin; melt and mix well. Use while warm with a brush on new boots or shoes.

FOR CLOTH FOR PIT'S AND FRAMES.

10.—Old pale linseed oil, 3 pints; sugar of lead (acetate of lead), 1 ounce; white resin, 4 ounces. Ground the acetate with a little of the oil, then add the rest and the resin. Use an iron kettle over a gentle fire. Apply with a brush, hot.

FOR PAPER.

11.—Dissolve 1¼ pound of white soap in 1 quart of water; in another quart of water, dissolve 1½ ounce of gum arabic and 5 ounces of glue. Mix the two liquids, warm them and soak the paper in it and pass through rollers, or simply hang it up to dry.

TO PREVENT METALS FROM RUSTING.

12.—Melt together 3 parts of lard and 1 part of powdered resin. A very thin coating applied with a brush will keep stoves and grates from rusting during summer, even in damp situations. A little black lead can be mixed with the lard. Does well on nearly all metals.

TO PREVENT RUSTING OF NAILS, HINGES, ETC.

13.—1 pint of linseed oil, 2 ounces black lead; mix together. Heat nails red-hot and dip them in.

AMOUNT OF PAINT REQUIRED FOR A GIVEN SURFACE.—It is impossible to give a rule that will apply in all cases, as the amount varies with the kind and thickness of the paint, the kind of wood or other material to which it is applied, the age of the surface, etc. The following is an approximate rule: Divide the number of square feet of surface by 200. The result will be the number of gallons of liquid paint required to give two coats; or divide by 18, and the result will be the number of pounds of pure ground white lead required to give three coats.

GLUES.

(Liquid Glue). 1.—Dissolve 2 pounds of best pale blue in 1 quart of water in a covered vessel, placed in a hot water-bath; when cold, add to it 7 ounces of commercial nitric acid. When cold, put in bottles.

2.—Finest pale orange shellac, broken small, 4 ounces; methylated spirit, 8 ounces; put in a warm place in a closely corked bottle until dissolved. Should have the consistency of molasses. Or borax, 1 ounce; water, ¾ pint; shellac as before; boil in a closely covered kettle until dissolved; then evaporate until nearly as thick as molasses.

(Flower Gum). 3.—Very fine white shellac mixed with methylated spirit in a stone jar; shake well for ½ an hour and place by a fire, and shake it frequently the first day. Keep in a cool place. Leave the camel's hair brush in the gum. Never fill the brush too full and gum the petals close to the tube.

(Gum for Labels and Specimens). 4.—2 parts of gum arabic, 1 part of brown sugar; dissolve in water to the consistency of cream.

5.—5 parts of best glue soaked in 18 to 20 parts of water for a day, and to the liquid add 9 parts of rock candy and 3 parts of gum arabic.

6.—Good flour and glue, to which add linseed oil, varnish and turpentine, ½ an ounce each to the pound. Good when labels are liable to get damp.

TO PREVENT BOILERS FROM FILLING WITH SEDIMENT OR SCALE.—Exercise care to get clean water and that which contains little lime. 2. Blow it out often. It can be