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QUAINT OLD WALLS.
Furnish One of the Charms of English Countryside.

The stone walls of the Cotswolds, in England, one of their most personal charms; are called "mounds." As in New England, they border the roads everywhere.

The conventional hedgerows are still planted, in this part of the country, only to divide field from field. But New England farm folk never knew how to build a "dry" wall like this.

It is of fairly even stones, laid without mortar—in fact, with hardly a chisel where mortar could be inserted. Some surfaces are marked by a sort of rough string course, and for coping the top stones are set up on end close together.

It must be admitted that a shelf of asphalt occasionally replaces them, and is not beautiful. But far more often you get, by way of variety, a primitive battlement of mud, in which seeds find lodgment and where they begin at once to weave a curtain of falling verdure and moss and to fill all the cranberries with green as years go by, so that the "mound" becomes really what it is called, and is hardly distinguishable from the massive granite and earthenwork walls of the Cornish roadsides.

TRAINS BLOWN AWAY.

Ballast Used on Narrow Gauge Railway Trains Drains Gales.

The danger of trains being blown off the rails, not uncommon on light, narrow-gauge railways, has been virtually eliminated on a stretch of thirty-six miles along the Atlantic coast of Ireland, forming part of the West Clare Railway, says London Tit-Bits. Probably there is no other line in the British Isles exposed to such violent gales, and during a few years prior to 1909 as many as five "blow-offs" occurred, in which the carriages were completely smashed, though there was fortunately no loss of life. In that year Mr. R. H. Curtis, an inventor devised for the railway a pressure-tube anemometer, with electrical apparatus for giving two warnings by ringing a bell in the station-master's house at Quilty; the first when the velocity of the wind reached sixty-five miles an hour, and the second when it reached eighty-five miles an hour. When the first warning is given, 2,400 lbs. of movable ballast, kept for the purpose at every station, is placed on each wheel of any train on the line at the first station it reaches. When the second signal is given, trains are stopped until the storm abates. Since the apparatus was installed, in December, 1909, there has been only one storm derailment, and this was due to deliberate disregard of the signals.

Our Language.

"Our language is, beyond a doubt, a joke," said Mr. Blinn, "For when a man is 'down and out' we say that he's 'all in'."

Depends on the Point of View.

"Does your husband do foolish things with his money?" "Well, I don't try that. He gives it all to me."



Canning and Preserving Fruits.

There are two distinct general methods of treating fruit so that it will not change or be changed though held for a time ranging from a few weeks to three or four years. These methods are termed canning and preserving. Many people do not realize the difference. We find, however, that canned fruit depends for its keeping qualities upon heating and perfect sealing, whereas preserves need not be sealed because their high sugar content prevents micro organism from acting upon the fruit.

Strictly speaking canned fruits and preserves should keep the fruit in its exact original condition. This, however, is an ideal which is never realized. If fruit is sealed in tin cans and then cooked long enough to kill all the minute forms of life within the can there are still several changes which may occur. Red fruits—strawberries, raspberries, and cherries—are high in acid. The acid attacks the tin, forming salts of tin, and the latter quickly destroy the color of the fruit. Such a change has little effect on flavor and digestibility. Canners have largely overcome this difficulty by obtaining a special kind of tin plate and by covering this tin with gold colored enamel.

Fruit canned in glass jars cannot lose color through tin salts. There is sometimes a change in color due to light. Here again the red fruits suffer most severely.

Probably the most important fact to remember regarding canned fruits is that changes such as fermentation due to micro organisms are not prevented by the sugar added. The sugar used is for flavoring. Heating and sealing kill the harmful molds and yeast and then keep others from coming into the container.

There are two ways in canning fruit. Some people cook the fruit before placing it in the jars or cans, others pack the raw fruit, cover with hot sugar syrup, seal or partly seal, cook and then seal if sealing has not been done first. If the fruit is cooked before placing in the container the latter must be thoroughly sterilized first. In the second case the container need only be washed.

Preserves include jam, jellies and marmalade. If a fruit product contains 70 per cent. of sugar, by weight, molds and yeast cannot live in it. Hence, if a person knows the weight of the ingredients put in a preserve as well as the yields of the preserve one can usually predict whether the product will keep. Take the following case:—

Weight of fruit	10 lbs.
Weight of sugar	10 lbs.

Total ingredients	20 lbs.
Yield of jam	14.5 lbs.
Loss in evaporation	5.5 lbs.

Thus 14.5 lbs. of jam contains 10 lbs. of sugar or 68.9 per cent. To this may be added 3 per cent. for the sugar naturally contained in the fruit, making 71.9 per cent. sugar. This should keep.

A drop of water on the surface of a preserve dilutes it at that point and will likely start mold growth. Hence jars to be filled with jam or jelly should not be covered until cold, but should have the same effect as an added drop of water. It is desirable to cover preserves while they are hot, sterilize the top, seal perfectly while hot and turn the jar upside down. By this method molds are eliminated to begin with and as with canned fruits prevented from entering afterwards.

Preserves also lose color through the action of light.

In case of jam and marmalade moderate firmness is desired. Jellies require to be quite solid. In all cases the solidifying is due to the combination of sugar with a substance in the fruit called pectin. The jellying or solidifying only takes place when the preserve is condensed to a certain extent by evaporation. Some fruits are low in pectin and will not properly solidify no matter how much condensed. A viscous, sticky syrup results. In any case the preserve is improved if a juice such as crab apple or currant juice is added. This juice is rich in pectin. By using it more sugar may be used, say 10 of sugar to 8 of fruit. Thus the time of cooking is reduced, color and flavor are retained, the yield is increased and solidifying results.

It will be seen that canning and preserving depend upon fixed laws. One should always try to explain why an operation or proportion is required. A good set of scales might mean a saving of material to many a housewife.—Ontario Department of Agriculture.

Seasonable Recipes.

Wild Grape Juice.—Pick over wild grapes and almost cover with cold water; bring slowly to a boil. When all juice seems free strain through a jelly bag. For each quart of juice allow one tea cup sugar; boil five

minutes, bottle and seal. This is much richer than the juice made with the tame grapes.

Earth Peach Preserve.—Procure fresh peaches, free from bruises, and peel. Secure a large old-fashioned stone jar, the sort that comes with a closely fitted stone cover, something on the fashion of the old-style churns. Place in this alternate layers of freshly peeled peaches and granulated sugar, using about pound for pound of sugar and fruit. Place the stone cover tightly in place—seal around with sealing wax and bury in the earth, leaving the jar low enough in the earth to prevent freezing or mounding, just as one does when burying cabbages or apples. Do not disturb these for three months, and five is better. When opened you will find the most delicious preserve that can be imagined—better in flavor and different than from any other method. Something of the flavor of brandied peaches, rich and smooth and better than by any other process.

Chipped Gingered Pear.—Use eight pounds of pears, eight pounds granulated sugar, one pound candied ginger root and four lemons. Chip or slice the pears fine, simply coring and not peeling them. Slice the ginger root and boil with the sugar and pear, and four tablespoonsful of water for one hour. Boil the lemons whole in a little water till tender, then cut them up in small bits, removing the seeds, and add to the pears and boil one hour longer. Can in jelly jars or large topped cans.

Peach Mangoes.—Use the large free-bone peaches, pare with silver knife as thin a peeling as possible. Cut in halves and remove the seed. Fill the cavity with the following mixture: Cut one cup of preserved ginger into thin slices; add one teaspoon grated horseradish, one tablespoon each of black and white mustard seed, one teaspoon celery seed and one-half teaspoon black pepper. Tie the halves together carefully and drop into a syrup made as follows: To one quart of vinegar add three pints of sugar, two ounces each cloves and cinnamon bark, put spices in a muslin bag and drop in the syrup. Let the fruit cook very gently in the syrup until tender, then lift from the syrup and place in the jars. Cook the syrup until slightly thick, then pour over the peaches and seal.

Baking Soda Uses.

There are numerous uses to which baking soda can be put, apart from the accustomed and legitimate ones of cake and bread making. First of all, it is an excellent family remedy for scalds. When milk is on the point of turning, pour a pinch of baking soda dropped in it will restore it to its natural sweetness.

A thick paste made of soda and water is excellent for cleaning glasses in which milk, ice cream or other greasy substance has been standing, or even when there is no time to make a paste, if the fingers are dipped in water, then in dry soda, and the greasy part of the glass is rubbed around with them, the marks will quickly disappear and the glass become bright.

Lamp chimneys treated in the same way will shine like crystal, while if a lamp burner is boiled for half an hour in soda and water it will cause the lamp to burn with renewed brilliancy. Soda is also excellent to clean silverware. Make it into a thin paste and rub briskly, then wash in hot water.

Things Worth Remembering.

To remove paint from glass rub with hot vinegar.

Ether is good for removing grease stains from clothing.

To prevent accidents, paint the bottom cellar steps white.

All suet puddings should be cooked a long time to make them digestible.

Add a teaspoonful of salt to starch, when making, if a gloss is desired on linen.

Drive six brass-headed tacks in the ironing board to take the place of a flat-iron stand.

It is wise to put a little salt in the water in which vegetables are washed. It will destroy insects.

Allow two level teaspoonfuls of baking powder to each cup of flour when no eggs are used.

To cut butter in, use a coarse wet thread for the table, use a coarse wet thread for the table, use a coarse wet thread for the table.

The small pin feathers that are so hard to clean from very young chickens can be wiped off with a damp cloth in much less time.

Cold water closes the pores of the skin and makes it firm. A little vinegar or cologne added to the water also assists in the hardening.

When boiling meat which is inclined to be tough add one teaspoonful of vinegar. This makes it tender, and gives a good flavor.

When no suet is at hand, and a little is required for puddings, etc., chop some dripping finely and use. It will answer the purpose quite well.

Before polishing furniture, wipe over with a cloth dipped in hot water and wrung out. If this is done, finger-marks will not show.

If furniture is washed with lukewarm vinegar and water before polish is applied, very little will be required and a great saving in labor effected.

A use for old velvet—Take a piece the size of a duster and tie it over the head of a broom used for wiping down walls. It cleans them beautifully.

To shine shoes quickly do not blacken but rub on a piece of orange and let the juice dry in, then polish with a soft brush and then they will shine like a mirror.

If clothes are to be ironed soon after they are dry use hot water for sprinkling them. They will dampen more quickly and evenly than if cold water is used.

When madras curtains are laundered they can be easily dried by hanging them on their own curtain rod and letting the juice dry in, then polish with a soft brush and then they will shine like a mirror.

When reheating meat place some gravy in a deep frying pan, season it and make quite hot, put in the meat and simmer gently, but do not allow to boil, as boiling makes the meat tough.

To clean dark varnished front doors, rub over, after dusting, with a little brown shoe polish on a piece of cloth; polish with a dry duster, and the door will look as if newly painted.

To remove the shine from serge, sponge the dress or suit with hot vinegar and press in the usual manner and all shine will disappear. The vinegar leaves no stain.

A small sponge the size of an orange will be found very practical to have to wash the little ones with, and more satisfactory than a cloth. Tie on a string so it can be hung up to dry after using.

MOTORCYCLE FIRE ENGINES.

Carries Apparatus and a Crew of Two Fire-Fighters.

The motorcycle, which has distinguished itself as a family vehicle and a bearer of despatches in war-time, is being tried as a supplement to municipal fire-fighting. A machine of the side car type is equipped with racks for chemicals, axes, and other light fire-fighting apparatus and manned by a crew of two men. It thus provides a light, speedy mobile unit which can make fast time to the scene of a fire, and may be able to check a serious blaze in its inception by virtue of sheer speed.

Costs More.

"I've tried to teach my boy the value of money." "Good thing!" "Well, I don't know. He used to behave for ten cents, but now he wants a quarter."

Road Construction and Maintenance

The Part Played by Refined Tars in Modern Road Building.

By J. RANDALL ROBERTS, B. Sc.

It is a well recognized fact among highway engineers that one great cause of the disintegration of water-bound macadam and gravel macadam roads is "internal attrition."

When a heavy motor truck or automobile is travelling up a grade or even along the level, there is a strong thrust developed under the driving wheels, while propelling the vehicle forward, tends to push the upper part of the road backward. The same is also true in the case of horse-drawn vehicles, only here the "thrust" is caused by a slight rubbing of one stone on another in the wearing course of plain macadam roads, which in a comparatively short time causes internal wear, and results in the formation of depressions and hollows, even though the foundation may be still firm and unyielding.

To overcome this difficulty, dense, heavy, refined tars have been used as a "binder" for many years in England and France, and for about twelve years on this continent. Abroad, the method followed has been to mix the crushed stone or slag with the heavy refined tar (at boiling temperature) and place the mixture on the prepared foundation, consolidating the whole with a suitable roller. This method has been followed on this continent to some extent, but the greater percentage of "tar macadam" is built by the penetration method. In this case, the layer of stone is placed upon the prepared foundation to the desired thickness, and then "grouted" with the heavy refined tar, at approximately boiling temperature. The road is then finished by covering this course with smaller stone, sealing same with additional refined tar, and then covering with sand or screenings and rolling.

There are several refined tars on the market, one of the best known being tarvia. A tarvia "X" macadam road corresponds very closely to the standard English practice in new construction.

Tar macadam is an especially suitable type of road for trunk line highways, where the traffic is fast and heavy, on account of its durability and low cost of maintenance. In the villages and towns, tar macadam is also very satisfactory, on account of its durability, as well as its durability and low maintenance cost. Under ordinary conditions, this type of road costs between sixteen hundred and twenty-five hundred dollars per mile more than the corresponding plain macadam, depending on length of haul of material, width of roadway, etc. In considering the question of road cost on a five-year basis, or longer, which is really the proper method, it has been proven many times that this expenditure is more than justified.

THE DISABLED HERO.

No Effort Too Great to Restore His Ability.

There are already about 1,700 disabled soldiers now under treatment in Canada, and almost every week sees more of them arriving from the front.

Some of them, of course, are so seriously disabled that it is impossible for them to take up again their former occupations, or, at all events, to take them up again without the aid of artificial appliances and training in their use.

They are heroes, we say; but the glamor of heroism will not content them long. The same quality of self-respect that made them freely enlist, will make them as eager to re-enlist in the peaceful work of the community that they have helped to preserve. The pensions that are due them will be an assistance but never a substitute for honest livelihood in the days that lie before them.

Do we quite realize that our country, till lately, had no organized system established for fitting these men to turn to civil life?

And do we realize the waste of good human material and ability that the country would suffer from, if they were left, untrained and unaided, to remain idle or to pick up any casual or temporary job they might happen to come across?

In France, skilled scientists are set apart by the Government to devote their whole time to directing and training the permanently disabled so that they may do the best for themselves. The same problems in Canada are being met by the same wise control, and will be solved, we have every reason to hope, under the guidance of the Military Hospitals Commission.

It is the business of every true Canadian to help the Commission and its Provincial auxiliaries by backing up its efforts to restore these men's capacity, and by helping to get them what they can do with profit to themselves and to the country.

Strong Point.

"Why have you never married, colonel?"

"Because I feel that a man cannot be a good husband and at the same time a good warrior."

"You overlook the advantage of being always in training."

Times Changed.

Newcomer (at resort)—"Is this a restful place?"

Native—"Well, it used to be until folks began comin' here to rest."

Girls who want to marry are always looking in shop windows for new brands of bait.

For every million tons of coal mined four or five men are killed and from 650 to 600 injured.

MAJOR S. L. WELLER

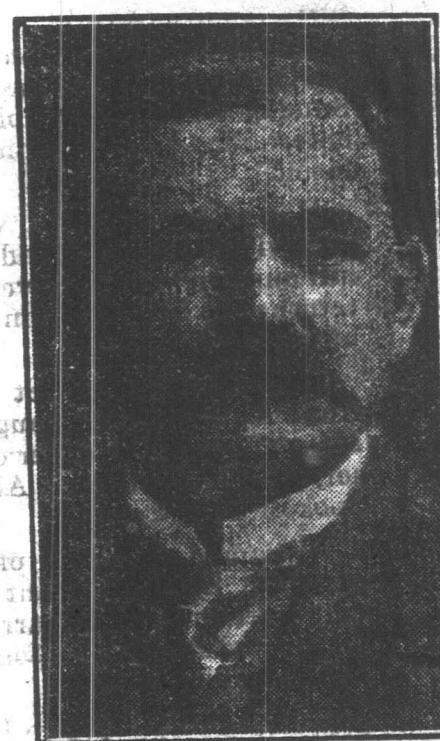
BUILDER OF CANALS

CONTRACTOR IN CHARGE OF NEW WELLAND CANAL.

Was Member of Bisley Team in 1896 and Served in North-West Rebellion.

Maj. J. L. Weller, on whose shoulders rests the main burden of the mammoth construction work now in progress on the new Welland Ship Canal, is a native of Ontario, having been born at Cobourg in this Province, some 56 years ago. He was graduated from the Royal Military College with honors in 1883, taking the first prize in civil engineering, physics, and artillery. He has been constantly in the employment of the Department of Railways and Canals of Canada from 1883 to the present date, being connected with the construction of the Trent, Murray, and St. Lawrence Canals. He was superintending engineer of the Welland Canal from 1900 to 1912, and at present is engineer-in-charge of the survey, design and construction of the proposed Welland Ship Canal, which is estimated to cost \$50,000,000.

He has had a varied experience both as a soldier and as an engineer. He served in the North-West Rebellion in 1885, as lieutenant in the Midland Battalion, and as staff adjutant at the base under Major-General J. W. Laurie. Later he served as captain and adjutant in the 59th Stormont and Glengarry Regiment, retiring where senior major on moving out of the district. He was a member of the Bisley team of 1896, winning many prizes, among others the High Commissioner's Cup. He was also a member of the kolapore Cup team of that year, which was successful in winning the cup.



Major J. L. Weller.

He was placed in charge of the repairs of the disastrous break in the Cornwall Canal bank in 1908, which was repaired by building a timber crib dam 428 feet long by 20 feet wide and 20 feet high around the washout, in ten days, and the canal was in operation in less than three weeks afterwards. Among his other claims to distinction may be mentioned the fact that he was the original inventor of reinforced concrete poles for electric lines.

His Great Daring.

Major Weller's great daring and resourcefulness have won him a reputation. Some years ago he accompanied a party of Government officials on a trip of inspection from Port Colborne to Port Stanley, on Lake Erie. The party travelled on a tug boat and the trip was made in November, when the weather is usually cold and the lake rough. A skiff was being towed behind the tug, and on the way to Port Stanley the tow line became fouled in the screw of the propeller of the tug. Efforts to free it were unavailing and navigation of the boat was rendered impossible. The only solution was for one of the party to go down under the water and cut the rope away—not a very inviting prospect in the ice cold waters of the lake, and with a fair gale blowing. Major Weller volunteered for the service, and after stripping off his outer garments, was lowered down behind.

Owing to the coldness of the water he was unable to accomplish the task at once, and was raised to the boat again. In a short time he again went down and succeeded in partially freeing the propeller, but not sufficiently to enable it to be operated. It was necessary for him to be raised and lowered five times before the task was completed, and by that time he was completely exhausted and indifferent as to the state of the elements. With careful attention, however, and thanks to his robust constitution, he was gradually brought back to normal, but not without serious consequences of such exposure. By next day he was himself again, and had added another instance to the many where his daring has overcome difficult situations.

His Fine Marksman.

Major Weller was a splendid marksman, having been, as mentioned above, a member of the Bisley Team of 1896, from which he brought back many trophies, and on such trips as the one just mentioned, he would often entertain the party by shooting pennies from between the fingers of his companions, who had such confidence in his aim that they were not at all diffident about offering a mark of this kind for his revolver.

Major Weller in 1885 married Miss Whitehead of Kingston. He has one son and two daughters. The son is Mr. W. H. Weller, general contracting engineer, who also graduated from the Royal Military College.