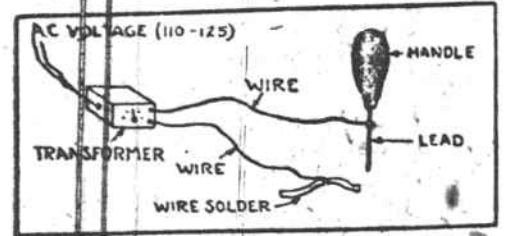


To Make Electric Soldering Irons

Transformer, Lead Pencil, Wire, Wire Solder and Ice Pick Needed.

By EDWIN RUST

After borrowing my neighbor's soldering iron and blowtorch several times I decided I would not rely so much on his generosity but provide my own means of soldering connections. I procured a transformer whose output was from 14 to 25 volts, then I took a common lead pencil, some No. 18 wire, some wire solder and the handle from an ice pick and constructed the soldering iron as follows: The lead was removed from the pencil and put in the handle, then a piece of copper wire was wound around the lead, in a close coil two inches from the end. The other end of the wire was attached to one binding post of the transformer. Likewise a piece



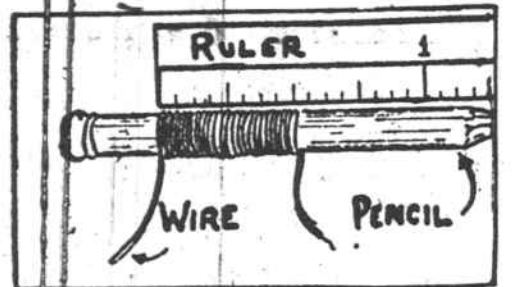
For an Electric Soldering Iron.

of copper wire was wrapped around a length of solder wire and the other end of the copper wire was attached to the other side of the transformer. Apply flux to the parts to be soldered, attach the lead from the transformer to the electric light socket and turn on either 14, 16, 20 or 25 volts, and you are ready to solder.

Touch the pencil lead to the solder and allow it to heat until the solder flows. Do not touch the solder to the wire connected to the lead. A clutch pencil may be used if the wire is connected to the pencil and part of the pencil wrapped with tape for use as a handle, but the lead in such a pencil usually is small and breaks easily.—Radio Digest.

Number of Turns Per Inch in Winding Coil

If you have to wind a coil having sixty turns of No. 22 wire, double covered, but don't know how long a piece of tubing you will have to use, take a nail or a round pencil and wind on tightly an inch of wire. Measure it with a ruler and then count the turns. If you find 43 turns in that inch and you need 60 turns altogether divide 43 into 60 and you will know to the sixteenth of an inch just how much



How to Measure Turns.

space to allow for the coil. There will be 14 inches or about 1 1/2 inches. Allow an eighth extra at least for safety's sake. This scheme will help you out also when you happen to have a piece of tubing in the shop and wonder how many turns of wire you can get on it. Sometimes you have to fit specified space, as often occurs when you are making a portable outfit and have a nice cabinet ready to use if you can cram the set into it. Using the same figuring as before, you can find out what size of wire will do, and of course you ought to use as large a size as possible for considerations of sharp tuning.—New York Mail.

Wrong Connection of Phones Causes Damage

One of the easiest ways to ruin a pair of phones is to leave them connected in the wrong direction on a one or two-stage audio amplifier. There is a right and a wrong way to connect phones, and if they are connected incorrectly they become demagnetized and lose their sensitivity. The best way to tell which is the correct connection is to plug the phones in the second stage of amplification and tune in a loud signal. The phone caps should then be removed and one edge of the diaphragm should be lifted up about an eighth of an inch with the finger. When the phones are connected in one direction a very much greater pull will be noticed than when connected in the other direction. After this has been determined some kind of a mark may be placed on the phone terminal that was connected to the plate of the tube when the greater pull was noticed on the diaphragm, and the phones should always be connected with the marked terminal to the plate.

Wise to Mount Tubes in Vertical Position

If a vacuum tube is allowed to burn in a horizontal position it will cause the filament to sag, and this will change the operating characteristics of the tube, and will also shorten the life of the filament. It is, therefore, wise to mount the tube in a vertical position. Cushion supports made from sponge rubber should also be placed under the tube socket whenever possible, as this helps to absorb mechanical vibrations which cause noises in the receiver.

IMPROVED UNIFORM INTERNATIONAL

Sunday School Lesson

(By REV. F. B. FITZWATER, D.D., Teacher of English Bible in the Moody Bible Institute of Chicago.)
(© 1924, Western Newspaper Union.)

Lesson for May 25

JEREMIAH AND THE BABYLONIAN CRISIS

LESSON TEXT—Jer. 26.
GOLDEN TEXT—"Amend your ways and your doings, and obey the voice of the Lord your God."—Jer. 26:13.
PRIMARY TOPIC—God Saves a Brave Prophet.
JUNIOR TOPIC—The Story of a Brave Prophet.
INTERMEDIATE AND SENIOR TOPIC—Standing bravely for the Right.
YOUNG PEOPLE AND ADULT TOPIC—Jeremiah's Message to His People.

I. Jeremiah's Solemn Warning to Judah (vv. 1-7).
The Lord commanded him to stand in a conspicuous place in the Temple and proclaim the judgment, which was about to fall upon them because of their sins. The object was to provoke them to repentance (v. 3). If they would not repent, God would make the Temple as Shiloh (v. 6). Just as Shiloh was once the dwelling place of the Lord and now fallen into decay and abandoned, so will it be with the Temple. Jeremiah was sent to speak the words which the Lord had told him and not to diminish a word.

II. Jeremiah on Trial (vv. 8-11).
1. Cause of Arrest (v. 8). It was for faithfully speaking all the Lord had commanded. The one who speaks boldly what God commands shall be opposed. The time-server and self-seeker will not stand for such a ministry. The Isalaha and Jeremiahs must suffer.
2. The Charge (vv. 8, 9). It was a capital crime. They said, "Thou shalt surely die." His guilt according to their charge was twofold: (1) Pretending to speak for God; (2) Speaking against the temple and the city. According to their charge he was guilty of blasphemy and sacrilege. The one who prophesied without God's command was to be punished by death (Deut. 18:20). Blasphemy was also punished by death (Lev. 24:16). Both Jesus and Stephen were accused of blasphemy.

3. The Princes Sit in Judgment (vv. 10, 11). When the excitement reached the ears of the princes they came to judge of the merits of the case. Matters of state were not entirely in the hands of the priests and elders, but were partly controlled by members of the royal family.
III. Jeremiah's Defense (vv. 12-15). Threats of death did not deter him from preaching, but only made him repeat his message.

1. Reiterates His Divine Commission (v. 12). He had nothing to deny, but to repeat what he had said. He plainly told them that in opposing him they were opposing God, for he was God's messenger.
2. His Exhortation (v. 13). He urged them to amend their ways and obey God, and God would not bring upon them judgment.
3. He Gave Himself Up (v. 14). He did not resist the powers of government (Rom. 13:1). Knowing that he was sent of God he was content to trust God for deliverance.
4. Warns of Fatal Consequence (v. 15). He frankly told them that God had sent him, and if they killed him they would be guilty of defying God. Woe would not only fall upon them, but the nation and city would suffer.

IV. Jeremiah Saved (vv. 16-24). He was acquitted. God is able to raise up friends and advocates from the ranks of those who oppose us.

1. Judgment of the Princes (v. 16). They pronounced him not guilty, as he had spoken in the name of the Lord. Jeremiah's words convinced them that he was speaking the truth.
2. Speech of the Elders (vv. 17-23). As the princes probably represented the king, so the elders represented the people. The elders pleaded for Jeremiah and adduced several cases in illustration:

(1) Micah (vv. 18, 19). Micah had prophesied against Jerusalem, but King Hezekiah instead of putting him to death, repented and thus turned aside the punishment which was impending.
(2) Urijah (vv. 20-23). Urijah prophesied against the city and land and thus incurred the wrath of Jehoiakim, who even brought him back from Egypt whence he had fled and slew him.

Though all this was done, judgment was not thus thwarted. Killing God's prophets does not prevent God's judgment, but intensifies it. In the case of Hezekiah God's judgments were turned aside through heeding the words of the prophet, and in the case of Jehoiakim judgment fell upon the nation because of refusal and maltreatment of the prophet.

3. Rescued by Ahikam (v. 24). Ahikam must have been a man of influence to be able to interfere at such a time.

Opportunities

We may not at first see it, but almost always opportunities are hiding back of the difficulties—and it pays to hunt them out.

Speaking the Truth

It is better to hold back the truth than to speak it ungraciously.—St. Francis de Sales.

The Tongue

The tongue is the neck's worst enemy.—Arabian Proverb.

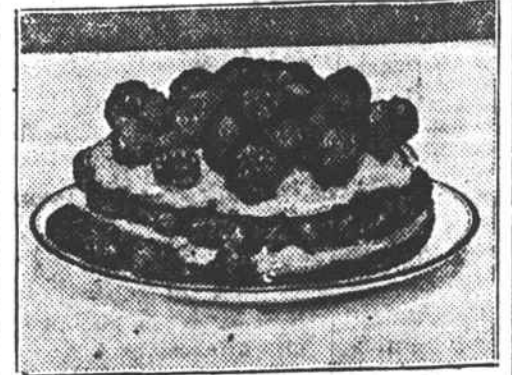
USE BISCUIT DOUGH FOR MAKING CAKES

Opinions Differ as to Merits of Old-Fashioned Delicacy.

(Prepared by the United States Department of Agriculture.)

Opinions will always differ as to the respective merits of the "old-fashioned strawberry shortcake" made with biscuit dough, and the kind in which "cake" literally means cake. The success of the first kind can always be relied on if the housekeeper is considered a good biscuit maker, for she simply bakes her biscuit dough in one large round piece in a pie tin, and splits it open when done. She may, of course, cut the dough with a cookie cutter and bake individual shortcakes if she prefers.

If one wishes to make the other type of strawberry shortcake it is sometimes a question as to just which one to use of the many different cake recipes offered in the cookbook. Many persons prefer a sponge cake or sunshine cake. This is not a "short" at



Strawberry Shortcake.

all and it combines pleasantly with the whipped cream that garnishes the strawberries. The following recipe is recommended by the experimental kitchen of the United States Department of Agriculture.

Sponge Cake.

4 eggs
3/4 cupful sugar
1 teaspoonful vanilla
1 teaspoonful lemon juice

1/2 cupful pastry flour
1/4 teaspoonful salt
1 teaspoonful baking powder

To the well-beaten yolks of eggs gradually add the sugar and the flavoring. Sift together twice, the flour, salt and baking powder, and fold into the egg yolk and sugar. Fold this mixture into the well-beaten egg whites. Bake the cake in shallow pans in a moderate oven for about 30 minutes. This makes two sheets about 7 by 10 inches.

When done, place the two sheets together with the slightly crushed berries and whipped cream between and on top. The whipped cream should be sweetened and flavored.

Government Recipe for Making Superior Starch

An excellent starch is made by adding one cupful of water to from one to four tablespoonfuls of starch, according to the stiffness desired, says the United States Department of Agriculture. When the paste is smooth add one-half tablespoonful of borax, one-half teaspoonful of paraffin or white fat and one quart of boiling water. Boil 20 minutes, stirring thoroughly until clear and smooth. If a scum or lumps form, strain. Use hot for all except colored clothes. Turn garments wrong side out before starching and starch first those things in which the most stiffness is desired, as water from the garments thins the starch. Freezing and wind both take the starch out of clothes.

OF IMPORTANCE TO KEEP FOODSTUFFS DRY



Closet Arranged to Keep Dry Foodstuffs Dry.

(Prepared by the United States Department of Agriculture.)

The keeping quality of foodstuffs, such as flour, sugar, raisins, dried corn, and rice and other cereals, depends chiefly on the fact that they are dry. In the home, therefore, these foods should be kept dry and clean and protected against insects and other vermin. For tea, coffee, and spices the containers should be as nearly airtight as possible in order to prevent loss of flavor. Dried meats, such as smoked hams, strips of bacon, and jerked beef, and home-dried fruits and vegetables are best kept in muslin bags hung in a clean, cool, dry storeroom. If dried meats are hung in the cellar or dried fruits or vegetables are stored in the steamy kitchen, they are likely to mold.

There are special points about keeping milk, fresh meat, fish, poultry, eggs, leftovers, fruits, vegetables, cooking fats, table oils, bread, crackers or canned goods, all of which are discussed in a new Farmers' Bulletin 1374, entitled "Care of Food in the Home." It may be obtained as long as the supply lasts, by applying to the United States Department of Agriculture.

SCREENS SHOULD GO UP EARLY IN SPRING

Housekeeper Will Guard Against Flies.

(Prepared by the United States Department of Agriculture.)

There are three general measures to be observed in combating flies in the home: Keeping them out entirely, by means of screens; using fly paper, traps, and poison to destroy any that manage to get in; getting rid of all near-by breeding places, through personal or community effort.

The bureau of entomology of the United States Department of Agriculture has explained many times over exactly why the common house fly is such a dangerous visitor. Every school child understands that this insect breeds in manure and decaying garbage, that the adult may alight on animal or human excreta and then fly directly to the food on the table, carrying filth and dangerous disease germs, and that a well-screened house, promptly closed doors, and a good fly swatter are aids in protecting the family from contamination and possible sickness.

It is the part of the good housekeeper to have the screen doors and window screens in place early in the season before the flies get into the house, and to trap, or otherwise kill, as many of the early-season flies as possible, before they have had an opportunity to multiply. An individual female fly will lay from 120 to 150 eggs at one time and will usually lay from two to four such batches during a season. These eggs will hatch, under favorable conditions, in less than 24 hours. The larva, or worm, stage usually lasts, in summer, from four to seven days and the pupal, or sleeping stage from three to six days.

A few flies usually manage to get in any house during the warm weather, either when doors are opened and shut, or through unnoticed cracks or spaces around screens, broken window panes, or other entrances. All foods should be kept covered or screened so that stray flies cannot light on them. Putting sticky fly paper and poison preparations about helps to rid the house of those which accidentally get in. A very effective fly poison is made by adding three teaspoonfuls of commercial formalin to a pint of milk or water sweetened with a little brown sugar.

It is perfectly obvious, from all that is known and has been written about the life habits of the house fly, that screens, flytraps, fly paper, and fly poisons would be unnecessary if all substances in which flies lay their eggs and breed were properly attended to. These include horse, chicken, hog, and cow manure, fermenting garbage, human excrement, and a great variety of fermenting and decaying vegetable and animal materials. All accumulations of these substances should be eliminated, or if this is not possible, tightly covered or screened so that flies cannot reach them. In the country the main source of flies is the necessary manure heap. Farmers' Bulletin 851 tells how to care for manure so as to reduce this difficulty to a minimum. The proper disposal of sewage in rural districts is also of the greatest importance because of the likelihood of the spread of fly-borne diseases from human excrement. Other bulletins of the department make valuable suggestions for modern methods of sewage disposal for the farm home.

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GOOD BISCUITS Are Your Best Food

SCIENTISTS tell us that wholesome properly raised biscuits contain more calories and more nourishment than any other bread. But every one knows that to be healthful and easily digested, biscuits must be carefully made and properly baked. "Happily, my experience has shown that it is almost impossible to make poor biscuits with self-rising flour," writes a housewife of Blythe-wood, S. C. "My biscuits in the North, made with ordinary flour, were invariably a failure, but I can truthfully say that when I use self-rising flour the reverse is the case. . . . Through a number of years' experience I have found self-rising flour to be all and more than its manufacturers claim it to be. . . . Its convenience and economy in saving both time and labor can hardly be over-estimated."

Because it simplifies the work of baking and practically eliminates failures, self-rising flour is the most economical flour you can use. Aside from this, dietitians and food experts commend its healthful qualities. Next time you cook biscuits try self-rising flour. You'll never regret it!

FOLLOW THESE FIVE RULES For Making Perfect Biscuits with Self-Rising Flour. (1) See that your oven is hot; (2) Always use sweet milk or cold water; (3) Never add baking powder, soda or salt; (4) Use good shortening—lard, vegetable fat or butter; (5) Make soft dough—bake quickly. SOFT WHEAT MILLERS' ASS'N., Inc.

Use SELF-RISING FLOUR

MONEY-BACK GUARANTEE
Every bag of self-rising flour bearing this Blue Shield of purity is fully guaranteed by the United States Milling Association and contains only the finest Pure Food Flour. If you are not satisfied with the quality of the flour, the association will promptly refund your money.

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