

Science Siftings

By 'Volt'

The Biggest Cannon Ball.

The biggest cannon ball ever made weighed 2600 pounds, and was manufactured at the Krupp works, Essen, for Russia. The gun from which this projectile was fired is also the largest in the world, and is placed in the fortifications of Cronstadt. It has a range of twelve miles and it has been estimated that each shot costs £300.

Highest Bridge in the World.

The bridge over the Zambesi river, Victoria Falls, East Africa, was formally opened recently in the presence of the visiting members of the British Association. Professor Darwin made the opening speech. He commented on the remarkable achievement which permitted a party travelling in electric-lighted saloon cars to visit a place which heroic explorers had spent months of fruitless endeavors to reach. The bridge over the Zambesi river, the highest in the world, was finished on April 1, 1905, thus completing another link in the Cape-to-Cairo railway. The bridge, which is of the cantilever style, is 420 feet above the river at low water and crosses over the gorge at Victoria Falls. The bridge was built by an English company on the girder pattern. It is constructed in three spans and has a width of thirty feet. The work was commenced simultaneously from both banks of the river, an electric motor cable with a span of 900 feet, the largest thing of its kind yet attempted, carrying the material from one side to the other. The bridge has ten bays in all, and at the rate of construction was estimated at about two bays a month.

Vagaries of the Gulf Stream.

The exceptional resistance encountered by trans-Atlantic steamers on their journeys to America has aroused not a little interest among oceanographers. So great indeed has been some of the resistance offered that some of the vessels fell short of their usual daily runs by 25 to 40 miles when within two days of the United States. Along the Southern Atlantic coast the velocity of the Gulf Stream fluctuates between one and a half and two knots an hour. As it travels northwards the speed gradually reduces until, when the Stream reaches Nova Scotia, it is so far widened and grown so shallow that it is almost imperceptible. It sometimes happens, however, that the speed does not diminish, and that it even increases as the current changes its course. At times the north-western limits of the Gulf Stream approach New England and Nova Scotia more closely than at others. Naturally, such marked changes are not without their effect on climate. A change is noted in the movement of the air over the ocean. Indeed, it is not improbable that the change in the direction of air motion is the direct cause of the change in the Gulf Stream's motion.

Home-made Electrical Machine.

Cut a stiff piece of paper into an oval or a circle of nearly the size of a common tea tray. Fasten it to two upright handles, one at each end, both made of paper, and attached by means of sealing wax. Now take any common tea tray that you may be able to borrow in the house and lay it on top of two glasses. These will furnish the insulation. Warm the paper disc thoroughly on the stove till it is as dry as it can possibly be. Then lay it on the table and brush it violently with a common cloth brush. If you spread a piece of silk or a rubber sheet under it so much the better, though it is not necessary. The friction has made the paper electric. Lift it from the table, lay it on the tea tray, and approach a corner of it with the knuckle of your finger or with a sharp metal point. A spark will leap out from it immediately. Now you have an electric battery in a most simple form. By rubbing the paper as often as it loses its electricity, it is possible to get enough sparks to load a Leyden jar or any other form of small electric storage battery.

A very simple Leyden jar can be made by filling a tumbler half full with shot and sticking an iron or silver spoon into it. By letting the sparks from the tea tray leap continually to the spoon the tumbler-jar finally will accumulate so much electricity that it will be extremely uncomfortable to get a shock from it.

St. Vincent's Hospital, Melbourne, has received £251 19s 1d from the Hospital Saturday and Sunday fund and £15 from the Wilson estate annual subscription.

The Home

By 'Maureen'

COOKING FOR INVALIDS.

In the preparation of food for invalids three very important things should be remembered. Firstly, the food should be well cooked; secondly, it should be well served; and thirdly, it should be well under the amount allowed. If it be necessary when in health to have well cooked food, how much more so is it when the body is wasted, the digestion impaired, and the desire for food diminished. No trouble should be spared in the preparation of food for invalids, otherwise it is likely to become more hurtful than helpful. When properly cooked it is most essential that it should be served in a dainty and tempting manner, for there is always a certain amount of fastidiousness about invalids that must be allowed for, even those who in health are most easily pleased being no objection to the rule. So that every effort should be made to create an appetite. It is necessary that the quantity of food should be small, for nothing is more effective in inducing an invalid to try as just a little quantity. Often this little creates a desire for just a little more, where the full amount may cause a dislike for the food even when well cooked. Those having care of the sick will find attention to these points act like magic in dispelling fastidiousness in the matter of food.

Custard.

Beat up 1 new-laid egg, add 1 teaspoonful sugar and $\frac{1}{2}$ pint milk; pour into a greased cup and steam for about 20 minutes.

Arrowroot.

Mix a teaspoonful of arrowroot to a smooth paste with a little cold milk, pour on boiling milk until cup is full, stirring all the time to prevent it becoming lumpy, add a pinch of salt and sugar to taste. If wine is to be added use water instead of milk.

Fish for an Invalid.

Put $\frac{1}{2}$ pint of milk on the fire to get hot, when quite hot put in any white fish, and allow it to cook about 20 minutes. When done put on a hot dish. Mix 1 teaspoonful of cornflour to a smooth paste with a little milk, then add the milk in which fish was cooked, stir over the fire until it boils. Pour sauce over fish, and garnish with cut lemons and parsley.

Jelly for an Invalid.

Take $\frac{1}{2}$ oz gelatine, 6oz lump sugar, two eggs, $\frac{1}{2}$ pint cold water, and $\frac{1}{2}$ pint lemon juice. Rub sugar on to lemon rind, then put it into a saucepan with the sugar and gelatine; when quite dissolved add strained lemon juice; just let it come to the boil, then remove from fire. Have eggs well beaten in a basin, pour jelly gradually on, stirring all the time. Allow to cool a little, then pour into a wet mould, and turn out when quite cold.

Barley Water.

Put 2 tablespoonfuls of pearl barley and water into a saucepan on the fire. When water boils pour it away. Add 1 pint of fresh cold water, bring it to the boil and then let simmer until the water looks milky. A bit of lemon rind peeled thinly kept in it for a while to extract the flavor is an improvement. Then strain and sweeten.

In cooking for invalids remember that milk which has been standing any time in a jug should always be carefully poured into another, leaving a little at the bottom, for this portion of the milk is injurious to health and has been often known to cause typhoid fever.

Maureen

HOW TO PAINT A HOUSE CHEAP.

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