

## Inventions and Appliances

### TREE-PLANTING MACHINE SAVES TIME.

WITH a tree-planting tool designed by a Utah blacksmith, the hole is dug, the little tree inserted and the earth packed around the roots in one operation,



The Machine. Tree Planting With Machine. Old Way of Planting With Tree Men.

says the Popular Mechanics. The implement consists of a bar with a crossarm at the top and three blades of spring steel at the bottom, somewhat on the principle of the post digger, and having a lever near the pulverized. The planter is then with-

lower end. The lever is pressed with the foot, the tree inserted, and the tool is then thrust forcibly into the ground. A lever at the top of the handle is then twisted to open the blades and the implement is screwed around in the hole until the soil is

drawn, leaving the cultivated earth packed around the roots of the plant. Experiments made by the U. S. Forest Service have shown that one man with this tool can plant 50 small trees in 25 minutes.

### LIFE GUARD FOR RAILWAY TRUCKS.

FROM the report of the Interstate Commerce Commission it appears that most fatalities and injuries in steam railway traffic result from being struck and run over by cars. A device has just been patented which seeks to prevent such accidents by means of a revolving wooden spool, hung on springs at each corner of the car truck above the rail. The spool is dished, and is yieldingly supported in such a position that an object, which might ordinarily be hit by and thrown under the wheels of the moving car, is struck by the dished spool and thrown to one side, out of harm's way.

### GAS PLUG CONTACT GIVES FLEXIBILITY.

AN INVENTION designed to give gas fixtures the flexibility of electric fixtures has been placed on the market. Heretofore it has not been possible to make connection for gas appliances with the same ease as with electric fixtures. This advantage on the part of electricity has been partly overcome by a wall plug for gas lamps, gas irons and the like, which is as inconspicuous as an electric plug contact. The new contacts look very much like electric ones, and are so arranged that they close gas-tight, if not connected. The connection is effected in the same way as with electricity. The invention is the work of a German gas engineer.

### ROUND-FRONT GAS HEATER SATISFACTORY.

RADIATING light and heat on all sides, a new round-front gas heater is being marketed. The round front causes radiation on both sides as well as in front and the warm, cheerful glow from the reflector means comfort on a cold night. Cold air is drawn off the floor through the large end of the reflector, which is funnel shaped, and passes directly over the fire box, up through the small end and out at the top of the heater. The heater is equipped with a 3-in. flue connection, permitting the free escape of the products of combustion.

### AIR RIFLE FOR PRACTICE SAVES AMMUNITION COST.

PROFICIENCY in the use of fire-arms comes only at the cost of a considerable expenditure for ammunition. One plan for developing good marksmen at low cost involves the use of a new and powerful air rifle, the principle of which may also be adapted to pistol practice, using a special bullet with which astonishingly good results have been obtained. The new gun

has a set-lock or knock-off system which permits the use of a much heavier compression spring than has been used in previous air guns, developing a muzzle velocity of 900 feet per second. From the fact that crimping the base of the ordinary .22-caliber bullet causes deformities of the base which are fatal to accuracy, the new air rifle uses a special sharp-nosed hollow bullet which is free from this defect.

### OSCILLATOR GIVES WARNING AT SEA.

AN electric oscillator, for use on ships, which announces the presence of another vessel, locates icebergs, indicates sea depths and provides for the transmission of submarine telephone and telegraph messages, is described in the October Popular Mechanics Magazine. The device consists principally of a 24-inch metal diaphragm attached to a cylindrical case, within which is an electromagnet actuating a copper sounder. The oscillators, when in permanent position, are placed inside of a ship's skin, beneath the water line, on both the port and starboard sides. Vibrations of the diaphragm amounting to a movement of one-thousandth part of an inch and repeated with great rapidity throw out sound waves under the water which may be caught by the receiving apparatus on another vessel. Signals of this kind have been heard at a distance of thirty miles, while at shorter ranges numerous telegraphic conversations have been carried on successfully. In one instance the experimenters actually talked between two ships. In locating icebergs, it is the echo which gives warning of the presence of danger.

When sharpening a pencil stick the knife blade through a slip of paper and it will act as a guard to prevent the lead dust from rolling the fingers.

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## Health and Sanitation

### HEALTH THOUGHTS.

A WELL KEPT ALLEY pays better dividends than well kept cemeteries.

Disease is at the root of nine-tenths of poverty, therefore to prevent disease is to banish nine-tenths of poverty.

The conference on Race Betterment held in the spring at Battle Creek, Michigan, is another evidence of the great interest being taken in the general health of the race.

Laundries and other places where clothes are washed in New Orleans must secure a certificate from the city regarding the sanitary conditions before they can continue their work.

Any school, whether it was built one year ago or twenty, can be kept clean, sanitary and free from the germs of contagion.

Whooping cough is the cause of 12 per cent and measles 9 per cent of all deaths under five years of age.

There's some hope that the rising generation will be cleaner than the present—the public schools are instilling ideas of civic as well as personal cleanliness.

The record of deaths only register as it were, the wrecks which strew the shore, but it gives no account of the vessels which were tossed in the billows of sickness, strained and maimed as they often are by the efforts of recurrent storms. Registration of sickness would tell us of the recurrent storms and enable us to trim our vessels to meet them.

Donnybrook, North Dakota, has the right spirit. One week a butcher and a druggist offered 5 cents apiece for every fly found in their place of business. At the end of the week only 15 cents was expended. Some restaurants would be bankrupt in a week.

The day should come, and is com-

ing, when the health officer will devote his entire time to health work and receive just compensation therefor.

With reference to flies and food there are two things to be done. Kill the flies as rapidly as possible, but until they are killed, protect the food from the flies by suitable coverings.

A city should protect its citizens by thoroughly fumigating houses where consumptives have lived. It should also vaccinate its people against smallpox.

Pasteur says it is within the power of man to remove all parasitic diseases from the world.

Don't forget that one of the highest costs of living is preventable disease.

The United States appropriated \$1,700,000 for public health service in the Philippines for the fiscal year ending December 31, 1914.

More than one-half of the human race is destroyed by germs of disease.

The points of entrance for disease germs are the nose, mouth and skin.

Before school work is begun every school room in the United States should be thoroughly fumigated.

The prevention of disease is the greatest service which the medical profession can perform for mankind.

Disease germs are more easily destroyed as they come from the body of the sick than after they have been spread abroad.

In fighting preventable disease use publicity and not secrecy.

If the bather in cold water remains until the body is chilled it is harmful.

In sanitary provision the farm should not be forgotten.

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## HOP GROWERS--ATTENTION

You know that the time is not far off when your hop-yard will be unprofitable. Why not plant a Grafted Vrooman Franquette Walnut Tree in every fifth hill each way of your yard? As you cultivate your hops you will be cultivating the walnut trees without additional expense. As walnuts can be dried in hop dryers, you are already equipped to handle this crop. Look into the possibilities of this coming industry. We are prepared to give you information, as we have a bearing walnut grove and have made a study of this business. Write for our booklet on soils, culture, varieties, etc.

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