

SCIENCE AND INVENTION



TO BUILD TELEPHONE LINES

Farmers in Any Community Can Construct Own Communication at Very Little Expense.

The cost of a mile of telephone line, exclusive of the poles and labor which can be supplied by the farmers themselves, is about \$7. This is a line using 30 poles to the mile and for the construction of which about 12 miles of wire are required.

For a full metallic system the cost is about \$14 per mile, and the cost of



Telephone is Convenient.

each subscriber's instruments and equipment is about \$13 more.

Chestnut or cedar make the best poles because they last longer in the ground. For a light line, poles 26 feet in length and five or six inches in diameter at the top are suitable.

For a grounded system, only two strands of wire are needed, and these are supported by 12-inch oak brackets, which should be nailed to the pole before it is set into the ground.

If the calls are too frequent, and the wires too heavily loaded, another pair of lines may be run on the same poles, but where two sets of lines are used a switching station must be located in some central house to allow for connection of one line to another.

Farmers in any community can form little companies of their own and build their own lines at very little cost. They can obtain full instruction as to the erection of the line, and its operations from the manufacturers who supply them with wire and equipment.

The patent on the Bell telephone ran out years ago, and telephones are now manufactured by many persons. How did we ever get along without it?

NEW GUARD RAIL FOR BERTH

Invention, Sadly Needed in Railroad Trains, Recently Patented by New York Inventor.

An invention that was sadly needed is the guardrail for upper berths in railway trains, patented by a New York man. Among the numerous objections to the top berth is the opportunities for rolling out and dropping into the aisle and the difficulties of getting into it. Stout men and timid women find the latter performances trying. The invention here shown consists of a guard rail running the length of the berth and just high



New Berth Guard Rail.

enough to prevent falling out, yet not high enough to be an annoyance. Pivotaly mounted at one end of this rail is a ladder, which normally lies back across the berth, but which can be lowered to a vertical position when the owner of the bunk desires to climb into it, which he or she can do with ease.

Cause of Glacial Periods.
Another suggested cause of glacial periods is that they have been due to the shifting of the Milky Way, such as is known to have occurred. Assuming that much of the earth's heat comes from the stars, Dr. Rudolf Spitaler finds that the change of position in relation to the Milky Way might have given a very different distribution of temperature from that existing at the present time. The stars are not only crowded in the region of the Milky Way, but many of them are of the hottest type.

MOVING PICTURES IN LIGHT

Trick is Simple and Consists Merely of Preventing Sun From Shining Directly on Screen.

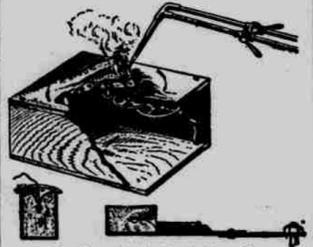
Stereopticon pictures either fixed or moving for use in ordinary daylight or in a brightly lighted room are now made in France. The trick is simple and consists merely of some device to keep the light from shining directly on the screen on which the picture is shown. In the Cinema palace, Paris, this is effected by arranging heavy curtains around the screen at proper positions and distances. The lantern, for protection, is at the opposite end of the hall, as is now usual. In another device the pictures are thrown on a sheet of ground glass forming one end of a large black box, whose opposite end is open to view. In this case the lantern is not in the same room with the spectators, and the picture resembles that seen on looking at the ground glass of an ordinary photographic camera. As the screen in both these cases is sheltered from the diffused light of the theater or hall, it is not necessary to extinguish or lower the lamps, although, of course, these should not be brilliant enough to dazzle the eyes. In describing these "full daylight" devices it has been wrongly stated by some writers that they depend on special brilliancy in the lantern or on some arrangement of reflectors. This is incorrect. The only things necessary are to keep the light away from the screen and out of the spectators' eyes.

MAKE SOLID GOLD CASTINGS

Dentists Have Clever Method of Securing Piece of Metal Which is Free from All Blowholes.

(By ALBERT F. BISHOP, in the Scientific American.)

Dentists have a very clever method of making solid gold castings. A train of gears is employed, which revolves a spindle that carries two jointed arms. The outer end of one arm has an inclosure where the little mold is placed, while the other arm carries a counterbalance. Just in front of the mold is a freclay block, hollowed to receive the gold which is melted with the blowpipe. The gearing is rapidly worked by hand, revolving the melted gold, which is forced very quickly into the mold. Owing to centrifugal force, a very solid and clean-cut casting is made, which is free from blowholes.



Casting Gold Centrifugally.

In making the mold, it is necessary for the dentist first to make a pattern. This is done by filling the cavity in the tooth with wax. A wire is attached to the pattern holds it in place while the clay mold is being made, as shown in one of the figures. When the mold is complete, the wax is melted out. Another figure shows a section of the mold as when placed on a rotary arm, also the block in which the gold is melted.

NOTES OF SCIENCE AND INVENTION

The French army will purchase not fewer than 350 aeroplanes during 1912. Tests of human bones show them to be 50 per cent stronger than hickory.

An Italian university professor claims to have found radium in ordinary dew.

A noiseless aeroplane being tried out by the British army is so quiet that its motor cannot be heard 50 yards away.

German postal authorities are experimenting with a small three-wheeled automobile for the use of letter carriers.

An ingenious German baker utilizes a windmill to mix and knead his bread as well as to grind his grain into flour.

In Slam there are three kinds of grape fruits, all seedless. One kind has red meat. Two kinds are sweet and one is sour.

It requires five big volumes to accommodate a new condensed dictionary from raised type.

Dr. J. H. Smith is said to have invented a photographic printing paper capable of reproducing in natural colors from suitable negatives.

Japanese scientists are experimenting with the ginseng plant in the hope of maturing it in four or five years instead of six, as now required.

The world's largest dry-dock has been completed at Belfast, Ireland. It is 886 feet long and 100 feet wide. All told, it is eight years in building.

There are 30 dental surgeries for school children in Sweden. Great benefit has been derived from them, the children showing marked improvement.

Carodoc Roberts, on whom Oxford recently conferred the degree of doctor of music, for an oratorio, worked at a carpenter's bench only a few years ago.

ROMAN VILLA IS UNEARTHED

Buried at Same Time With Pompeii—Treasures in Dispute Between Government and Owners.

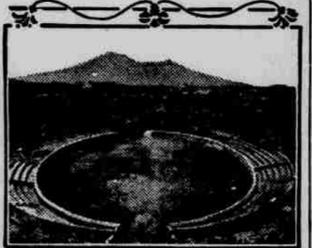
Dr. Johan 40Bergman conducts a vacation pilgrimage to Italy for Sweden's classical scholars. He has given the particulars about a newly discovered antique villa near Pompeii.

Vineyard laborers happened upon this extraordinary ruin very recently. Ten rooms of it were cleared before the Italian government stopped the owner's operations. More will be cleared when an Italian court has determined what indemnity the state must pay him for the property.

Mt. Vesuvius overwhelmed the new villa with volcanic ash and pumice co-incidentally with Pompeii, A. D. 79. But its construction and decorations are of early Augustan date and of princely magnificence.

Only three Pompeian suburbana of equal splendor have been discovered. Bulwer-Lytton's "Villa of Diomed," found in the 18th century, was the first. A second was uncovered at Boscoreale in 1895.

It was there that De Prisco, a member of the Italian parliament, found 96 superb pieces of ancient silver plates, which he vainly offered to the Boston



Amphitheater at Pompeii.

Museum of Fine Arts. Baron Rothschild of Paris hastened to acquire them for the Louvre museum.

The Metropolitan museum owns several frescoes from the same ruin, and Mr. Morgan a charming bronze statuette.

A third villa of fairly equal proportions was located at Boscoreale once more in 1900, but the condition of the paintings in its 24 apartments is deplorable.

The principal hall in the new Pompeian country house has a fine mosaic pavement and is frescoed round about with 29 life-size figures of men, women and children. The handsomest group is one of Bacchus and Ariadne. Elsewhere a naked infant reads a papyrus roll to a draped lady. Other nude figures wear fetters.

The nameless owner of this Campanian palace was not merely a connoisseur, but an epicure. His kitchen is larger than any other Roman kitchen we know. One can easily picture him as Cardinal Newman pictured his Roman grandee in a capital lecture, seeing his batterie de cuisine misexposed in the plateglass show-cases of a modern museum with infinite disgust.

Dr. Bergman's account is unillustrated, easels, drafting boards and cameras remain taboed on the disputed premises at Boscoreale.

WEDS; LEAVES TWO WIVES

Letters He Fails to Take Along Show That He Was a Very Gay Lothario.

San Bernardino, Cal.—Mrs. Anna Brown, aged fifty-five, of Ligonier, Ind., and Mrs. Ellen Wadsworth, fifty, of Newark, N. J., have sworn to complaints charging that a man under the names of K. W. Keown and James Clark married each in turn within a few weeks and then disappeared. The women—both formerly well to do, but now said to be destitute—asked the police to assist them.

Through a matrimonial agency Mrs. Brown said she corresponded with the man and at his suggestion sold her home and went to San Diego. They went through a marriage ceremony there, and the man, then known as Keown, disappeared.

As Clark, it was charged, the man was at the same time conducting matrimonial negotiations with Mrs. Wadsworth, who came to this city a month ago. After another marriage ceremony here, it is alleged the man deserted her. The police found among the alleged bigamist's effects many letters showing that he had been conducting similar operations for a long time.

PIPE SETS FARMER AFIRE

In Rolling on Ground Flames Ignite Grass—Victim in Serious Condition.

Kenmare, N. D.—John Peterson, a farmer, residing near here, was nearly burned to death when his clothes caught fire from ashes in his pipe, which he had thrust into his coat pocket while riding horseback.

A high wind was blowing, and when Peterson discovered his clothing was on fire he jumped to the ground and began rolling on the grass in an effort to extinguish the blaze. In this manner he ignited the dead grass. Finally the man succeeded in reaching a nearby farm house, where he was given medical aid.

He is now in a local hospital and his condition is serious.

Wage Mosquito Fight.
New Haven, Conn.—The anti-mosquito crusade in this city which has begun and for a week subscriptions will be used for the fight to exterminate the pests.

A Gas Range and Gas Water Heater For Home Comfort

Our purchase, this year, of Detroit Jewel Gas Ranges was made with the idea of beauty and durability as well as gas savers. Our line is more complete than we have ever carried, showing all the new patterns in elevated ovens, and guarantee them to be models of efficiency.

Phone for our Representative.
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Lincoln Gas & Electric Light Company
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FOR NEW MARRIAGE LEGISLATION

MEXICAN FEDERALS AND REBELS MEET IN DESERT PLAIN.

Omaha Society Will Present Bill to Next Legislature—Florida Officers Decayed to Death—Cannibalism in China.

Conejos, Mex.—Twelve hours of brisk fighting on the desert plains three hundred miles south of the American border, between a force of 5,000 rebels under Orozco and an equally strong body of federals under General Huerta resulted Sunday in a decided advantage to the government. The fighting began at daybreak and at nightfall the sandy mesas between here and Yermo, fourteen miles north, where the insurgents were gradually forced back, were covered with dead and wounded. Nearly 500 are believed to have been killed and wounded on both sides.

Eleven Will Compete.
Lincoln.—In the fifth annual state championship debate of the Nebraska High School Debating league, which will be held on High School Fete day, Saturday morning, May 18, at the University of Nebraska, eleven representatives of schools in all sections of the state will compete for the honors. These contestants will be members of the teams that have won the championships in the several districts into which the seventy school league is divided.

Cannibalism in China.
Shanghai.—Reports of terrible suffering from starvation, and horrible tales of cannibalism, have been brought here by courier from the districts of Kiangsu and Anhwei. Famine has been imminent since last September, when the floods swept over the rice fields and ruined the crops. It is said that one-third of the population has already starved to death, and in their desperation the survivors are eating each other.

San Francisco.—Returns received at 9:30 o'clock Tuesday night from 583 precincts out of 3,700 in the state, give the following results from the presidential preference primary election: Roosevelt, 26,722; Taft, 16,303; LaFollette, 9,954; Clark, 5,974; Wilson, 2,504.

Were After Life Preservers.
London.—It came out during Friday's hearing that the firemen of the Titanic, when the water entered their quarters, raided the third class saloon for life preservers. Certainly, as is pointed out, they were not needed by passengers, as the vessel carried only a small proportion of her complement of third class passengers. That importance is attached to the action of the firemen, however, is shown by the answer to the question put by Lord Mersey as to how the firemen reached that part of the vessel.

Bad Storms in Des Moines.
Des Moines, Ia.—Des Moines was visited by a severe rain and electrical storm Friday night, which caused damage running well into the thousands of dollars.

Want to Increase Telephone Rates.
Lincoln.—The automatic telephone will be used in Lincoln. That decision has been announced by the directors of the Lincoln Telephone & Telegraph company. The company also announced that it will apply for permission to increase its rates.

Baton Rouge, La.—The government is now aiding 117,000 flood sufferers in the territory from the mouth of the Arkansas river to the gulf. Captain Logan estimates that there are about 12,000 refugees in the country south of the Red river to whom the government has given assistance.

Discipline of the Methodist Episcopal church still is undecided and the question of whether dancing, card playing and kindred amusements are

to be left only to the "conscience" of the members of the church is the bone of contention to be gotten rid of at Minneapolis.

Lincoln.—William Jennings Bryan, who is a member and a past chancellor of Lincoln lodge No. 16, Knights of Pythias, talked briefly Tuesday afternoon before the members of the grand lodge on "Fraternalism." The visit of Mr. Bryan was unexpected and he was enthusiastically cheered as he entered representative hall, where the organization is holding its annual session.

Madison.—John F. Deitz of Cameron dam must serve his life term for killing Oscar Harp, the deputy sheriff, during the siege at the Dietz homestead, according to a ruling of the supreme court of Wisconsin.

By a vote of 176 to 120 the house has amended the legislative, executive and judicial bill abolishing the bureau of trade relations in the state department and consolidating the bureaus of manufactures and statistics in the department of commerce and labor.

Representatives of the striking freight handlers in Chicago have proposed an arbitration plan to their employers.

Twenty persons were injured, several fatally, when a Frisco passenger train was wrecked fifty miles from Fort Smith, Ark.

The school management committee of Chicago has adopted a recommendation for teaching wireless telegraphy in the public schools of that city.

Miss Malecka, an English woman, has been sentenced at Warsaw, Russian Poland, to four years' penal servitude on a charge of being affiliated with the Polish revolutionaries.

Free dental treatment for school children of the poor was made possible when the board of education at Springfield, Ill., with the dental society co-operating, opened dental parlors for that purpose.

Harassed on all sides by the mighty Mississippi river, which at the present time inundates twelve prosperous villages in Mississippi near Greenville, and handicapped by the lack of money and facilities with which to battle the water which is sweeping over their homes, the people of Greenville have sent out countless messages to every available source calling for aid.

Heavy rains and high winds have played havoc over a large area of the flood district in the south, and many places that had been considered practically safe are now facing threatened levee breaks and inundation.

A movement is on foot to put a country agriculturist in every county in the state of Illinois to make a study of local conditions and suggest plans for scientific farm management for the purpose of obtaining a larger crop yield.

The call for all Moslems to participate in a holy war, which was launched at the start of the Turkish-Italian war, is secretly enveloping all the Mohammedan country.

It is estimated at New Roads, La., that four inches of rain fell there Friday. Grave fears are felt for the inhabitants of that section, who were ordered to places of safety after four days of improved conditions.

Atlanta, Ga.—Oscar W. Underwood's official plurality in the presidential primary of May 1 was 14,047, according to the count made by the state executive committee and Mr. Underwood was declared the choice of Georgia's democracy for president. The vote was announced as follows: Underwood, 68,273; Wilson, 53,866; Clark, 882; Harmon, 411.



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We offer these \$12.50 as the best clothing bargain you ever had.

SHIRTS

New spring patterns, fast color percale shirts, the 95c kind, offered at 69c.

In the underwear line the best in balbriggan and mesh, 25c to 50c; worth 40c to 75c.

SHOES

Some startling bargains in shoes, especially in oxfords. Boys' odd pants, 39c; worth 50c to \$1. Men's odd pants, \$1.00; worth \$2.50 and \$3.00.

The store that gives you what you want at the prices you can afford to pay.

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AUTO TOPS

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My make of auto and buggy tops has no superior. Prices reasonable, work guaranteed.

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And it is wise and prudent to insure against them in the reliable NATIONAL ACCIDENT INSURANCE COMPANY of Lincoln, Nebr. The "National" does a larger accident insurance business in Nebraska than any other company, and settles all claims promptly and in full. A host of satisfied policyholders are staunch supporters of the "National" and the numbers are increasing rapidly.
W. C. HOWEY
Secy. and Genl. Mgr.