

HAVE YOU PHONED YOUR ENGLISH COUSIN? It Costs only \$75 to Talk Over the Atlantic and all Centre County Has the Opportunity.

Last Saturday all Bell Telephone users in Pennsylvania were connected up with the trans-Atlantic service of that company and now all that you need to do is call "long distance," tell her who you want on the other side of the pond, wait 'til she gets them then drop \$75 in the box and start talking.

The world do move. This advance step of science and engineering accomplishment is so wonderful that most readers will want to know all about it and the story follows: Calls between Pennsylvania or New Jersey points and London will be carried over the circuits of the local Bell operating company to the nearest office of the Long Lines Department of the American Telephone & Telegraph Company, and thence to the long distance office of that company in the Walker street building, New York City.

At that point equipment is provided to separate the transmission toward London from that received from London. East-bound transmission is carried by telephone lines to the radio transmitting station at Rocky Point, Long Island, thence by radio to the receiving station at Wroughton, England. From Wroughton the transmission passes by wire telephony to the long distance office of the general post office. At this point is located segregating apparatus similar to that in the Walker street building, New York, and from there the calls are handled over the ordinary telephone plant to the London subscriber.

West-bound, the transmission from the London subscriber, which reaches the London long distance office over the regular wire plant and is there segregated from the east-bound transmission, is carried over ordinary telephone lines to the transmitting station at Rugby, from which it proceeds by radio to the receiving station at Houlton, Maine. From Houlton to New York, as from Wroughton to London, the received transmission is handled over telephone lines and at the New York long distance office it passes through the combining apparatus and is delivered to the subscriber over a regular telephone circuit.

The radio transmissions, both east and west-bound, are on the same wave length, of approximately 5000 meters, or 60 kilocycles. This is the wave length which long experience through many years of experimentation has indicated as being the most satisfactory and reliable which the present state of the radio art makes available for this transmission. The choice of this wave length was agreed to by the engineers of the American Telephone & Telegraph Company and the British post office as being the most suitable in the initial transoceanic telephone channel.

As it is well known, radio transmission of every kind and on every wave length is subject to erratic disturbances and interruptions which render it materially less reliable than telephone or telegraph transmission over wires. Experience shows, however, that widely different wave lengths are not always affected to the same degree at the same time. Both very long and very short wave transmission between two points may be equally subjected to disturbances and interruption over a period of hours, days or months. It is found, however, that the periods of maximum disturbance do not always coincide. It follows that while a wave length of approximately 5000 meters is the best which present knowledge can assign for reliability on a single frequency, commercial transmission can, at times, be maintained more readily on a very short wave length.

Experiments conducted with long and short waves have indicated further that, because of the five hour difference in time which results in the afternoon of the business day in London over-lapping the morning in New York, more difficult receiving conditions are generally encountered at the eastern terminus. In a word, telephoning between New York and London is more likely to be unsatisfactory because of radio conditions at the European end than at the American end.

Because of the two facts, first, of more severe natural conditions in England, and, second, the non-coincidence of disturbances on long and very short waves, it seemed desirable in initiating commercial transatlantic telephony, and until more experience was had, to provide an alternate short wave channel for transmission from New York to London.

To accomplish this the outgoing east-bound transmission from Walker street is carried by regular telephone lines both to the long wave transmitting station at Rocky Point and to the short wave transmitter at Deal Beach, N. J. The transmitter at Deal Beach operates on approximately 22 meters and the antenna is arranged to radiate in a concentrated or "beam" manner along the direction of the great circle to London. In England the short waves are received at New Southgate, on the outskirts of London, and carried by ordinary telephone wires to the combining apparatus in the London long distance office. With the same transmission east-bound on both the long and short waves the London operator can select at will the transmission channel which affords the best service. The shortwave transmitter is thus far purely of an experimental character and further experience may indicate either that the provision of an alternate short wave channel east-bound is unnecessary or that at times of the year a corresponding alternate short wave channel may be required west-bound to insure maximum reliability of transmission.

It is, of course, well recognized that radio transmission is not, in itself, secret. The frequencies used in the

transatlantic telephone circuit (5000 meters and 22 meters) are far removed, however from the frequency range used in broadcasting and will not be heard in radio broadcast receiving sets. A further difference from broadcasting resides in the fact that the long wave transatlantic transmission is of a special character, employing a single sideband and with the carrier suppressed, and cannot be received by means of the broadcasting type of receiving set. Thus, while the present transatlantic circuit is not secret, no ordinary receiving set will pick it up intelligibly. Methods are now under development for increasing the degree of privacy which the circuit will provide, and these will be added as they become available.

The opening of a commercial telephone service between this country and Europe marks the triumph of twelve years of experiment and research directed toward that end. In 1915 the first trans-continental telephone line was opened, and conversations over wire circuits 3,500 miles long excited the wonder of the world. It was the development of the vacuum tube repeater over a period of ten years that made possible such a service, and even before it was established, telephone engineers began to study the possibility of "two way" radio-telephone conversations across the ocean.

After they had constructed their experimental apparatus it was necessary to obtain the permission of the Navy Department to use its antenna at the big wireless station at Arlington, Va., for its first trial. Permission was obtained from the French government to use the Eiffel tower as a receiving station and after numerous efforts the voices of speakers at Arlington were heard in Paris and also in Honolulu during 1915.

"Two way" transmission of speech by which a conversation could be carried on was quite a different matter, however, and it was not until last March, that such experiments between this continent and England were successful, the transmitting station of the British Post Office Department not being completed until that time.

Mirror Made Trouble

To the back veldts of South Africa there penetrated one day a traveler, who possessed many treasures the old farmer had never seen before. Among them was a mirror.

"Where did you get that?" asked the farmer, as he gazed into it; "that picture of my father?"

The traveler did not explain, but gave it to him as a souvenir, and it became his most cherished possession. Every day he looked at his "father's picture," and kept it carefully locked up, showing it to no one.

But there came a day when he left his keys behind, and his wife, who had long wondered what it was he kept so carefully, started rummaging and found the mirror.

"Oh," she murmured, as she gazed into it, "so that's the cat he's after. Is it?"

Birthstone Old Ornament

Birthstones are among the oldest forms of jewelry. The group of 12 stones, one for each month of the calendar year, may have been related to the 12 stones in the breastplate worn by the High Priest Aaron as described in the Book of Exodus. Each of the 12 stones represented one of the tribes of the Children of Israel and the name of the tribe was inscribed on the stone. As early as 4000 B. C. another high priest, this time in Egypt, wore a breastplate of 12 small stones or crosses. Ancient Egyptian carvings preserve this interesting bit of history. A relationship between the breastplates of the two high priests seems probable.—New York Times.

North Carolina Giant

Miles Darden, who was born in North Carolina, in 1798, and died in Harden county, Tennessee, January 23, 1857, was the world's biggest man. He was 7 feet 6 inches tall and weighed a little more than 1,000 pounds.

Thirteen and a half yards of cloth one yard wide were required to make him a coat. When he died 24 yards of black velvet were needed to cover the sides and lid of his coffin. This was 8 feet long, only 1 inch less than 3 feet deep and was 32 inches broad. Miles Darden lived a quiet, uneventful life; apart from his world record size he seems to have been a hard-working, ordinary man.

Not Worth Saving

A Scottish gillie who had accompanied a middle-aged and corpulent Englishman on a fishing expedition returned alone and announced that the visitor had fallen into the river and been drowned.

"The first time he cam' up I grippit him by the hair, but it was a wig and cam' awa' in ma hand, and doon he sank. He cam' up again an' I grippit him by the collar, an' it was a dickle and cam' awa' in my hand, an' doon he sank. A third time he cam' up an' I grippit him by the leg. Losh, it was cork, an' cam' awa' in ma hand, an' doon he sank. So I said to mysel', 'Weel, ma chapple, I'll let you droon. We're naething but a bag o' remnants.'"

Many Bankrupts in England.

Four hundred and forty women went through the English bankruptcy courts in one year, according to bankruptcy reports. Milliners and dress-makers had the greatest number of failures, the total number of bankrupts being 6,595, with total liabilities estimated at \$80,000,000.

—Subscribe for the "Watchman."

Fish's Odd Method of Attracting Prey

For a long time it was considered that the nearest allies of the angler fish, well known in British waters, were fish living on or near the bottom of the sea. But recent investigations show that there is another group that live in midwater at depths of from 1,600 to 5,000 feet from the surface.

This region presents conditions inhospitable to life, and as conditions must be almost uniform from season to season, by day and by night, peculiar modifications are to be expected in creatures capable of adaptation to such a strange environment.

Perhaps one of the oddest concerns the primary need for the maintenance of the species. How can a fish find its mate in these vast, trackless, gloomy spaces, where they are prevented from living in shoals by the poverty of the food supply? It has been found that in some of the species the males are minute dwarfs living as parasites attached to the females.

Most of the fish live wholly on other fish, and, like the angler fish, obtain their prey by attracting it and then engulfing it in capacious mouths armed with sharp and flexible teeth that bend inward towards the gullet.

The fishing apparatus is developed from one of the spines of the dorsal fin, and consists of a stiff but movable basal part, the rod; a long flexible part, the line; and a tip with barbs, representing the hook. The bait is a luminous bulb, the outer skin being nearly transparent and containing a glandular sac which sheds a secretion by a pore.—Vancouver Province.

Many Luminous Plants Known to Naturalists

Glow worms are not the only living things that are luminous. Several plants and parts of plants have the power of shining in the dark.

There is, for example, a luminous moss. It can be seen in crevices among rocks and large groves by the roadside, sometimes in patches measuring six or seven inches across. The common tormentil gives off a light, too—just close near the roots. If the roots are dug up and cleaned of soil, they will be clearly outlined in the darkness by a pale green phosphorescence.

The light given off by decayed wood is common enough, but few people perhaps have noticed the light given off by leaves during the fall of the year. When beech and oak leaves start decaying they glow with much the same kind of light that comes from fresh fish.

This light is caused by tiny threads that are interwoven into the plants and are essential to their health, although often they do not start glowing until the plants are either dying or dead. If the underside of a glowing beech leaf is examined under a magnifying glass, small yellow spots will be seen. These are the centers of the fibers, and if one is disturbed with the point of a pin it will glow more brightly for a few minutes.

Finishing Sealskin

Natural sealskin is so heavy and salt-impregnated, so thick, greasy and coarse-haired, that no woman would care to wear the fur until it had been properly dressed. It requires a number of operations to finish the raw skins. They are washed, dried, cleaned with oil-soaked sawdust and skived to one-third of their original thickness. The skiving requires the most sensitive touch, as the knives must go deep enough to loosen the roots of the stiff hairs but must not touch the roots of the fur itself. When the bristles are loosened the skins are turned over and the bristles are rubbed out. The skins then go to the hot rooms, where the fur side is exposed to blasts of hot air. The last operation is the dyeing that gives the fur its characteristic color. Unlike ordinary things, sealskin is colored by being painted with coat after coat of dye, put on with a brush.

An Alibi for Ed

Two backwoodsmen in Maine knocked at the door of a house at the edge of the forest. "Hello, Ed!" said one of them to the farmer who came to the door. "Say, we come across the dead body of a man over there in the hollow an' we kinda thought 'twas you."

"That so? What'd he look like?" asked the farmer.

"Well, he was about your build—"

"Have on a gray flannel shirt?"

"Yep."

"Boots?"

"Yep."

"Was they knee boots or hip boots?"

"Let's see. Which was they, Charley, knee boots or hip boots? Oh, yes, they was hip boots."

"Nope," said the farmer. "Twasn't me."—Boston Transcript.

He Knew Better

Two negro boys were engaged to change one of the large, heavy tires used on the present-day type of motor coaches. The bulk and weight of the tire was giving them quite a little trouble and a bystander, noticing this, made an offer of a quarter to the one making the nearest correct guess of the actual weight of the tire. The very first boy to proffer his guess very confidently said, "Dis here tire weighs 35 pounds, boss."

Whereupon the other boy hilariously drolled his reply: "Boss, dat showt how ignorant some niggers is. At jest put 70 pounds of air in dat tire."—Forbes Magazine.

Gave Up Prized Sword in Expiation of Crime

In the high mountains beyond Nikko, in central Japan, nestles Lake Chuzenji, and above it the sacred mountain Nantai San rears its bare crest. Once it was the dwelling place of a pacific Buddhist hermit saint. Pilgrims from all parts of Japan climb its steep slopes. They are dressed in white robes, carry staffs and rosaries in hand, and chant a Buddhist prayer as they climb. An avenue of scarlet lacquer "torii," or gateways, guides the pilgrim to the shrine on the summit.

Near the peak is a bare patch of rock, overhanging a steep precipice. On this rock is a heap of swords, daggers and other weapons, rusted with age. In ancient times a man who had committed a deed of blood made a pilgrimage to Nantai San and offered up his weapon in expiation of his crime. To the Samurai, the warrior, his sword was his most prized possession, and the murderer who sacrificed his precious sword gave up in atonement what he valued more than his own life.

This heap of ancient sword blades, daggers and other weapons can be seen on Nantai San at present, a relic of feudal times.

"Shut-ins" Not Dead to All Worldly Affairs

The Woman visited a friend at a sanatorium the other day—one of those places in the country where they try to make convalescence bearable. She had to wait until she could see her friend, so she sat down on the porch. At the far end a group of women patients were talking with absorbed interest.

The one in the wheel chair evidently had a great deal to tell. The Woman wondered what it could be about. She knew the story of those particular patients. All three had been invalids for years; they always would be bound to their chairs and crutches.

Just then she was called, and as she passed the group she heard: "When I bake tomatoes I fill them with bread crumbs and butter and . . ."

"That's just the way I fix peppers, and my husband used to say . . ."

The Woman went inside. She was "smillin' round the mouth, but sort of teary round the lashes" when she thought of that hopeful, reminiscent group of cooks.—New York Sun.

Cold Feet

"Do you suffer from cold feet?" the doctor asked the young wife.

"Yes," she replied.

He promised to send her some medicine.

"Oh," she replied nervously, "they're—not—not mine."

What Is a Diuretic?

People Are Learning the Value of Occasional Use.

EVERYONE knows that a laxative stimulates the bowels. A diuretic performs a similar function to the kidneys. Under the strain of our modern life, our organs are apt to become sluggish and require assistance. More and more people are learning to use Doan's Pills, occasionally, to insure good elimination which is so essential to good health. More than 50,000 grateful users have given Doan's signed recommendations. Scarcely a community but has its representation. Ask your neighbor!

DOAN'S PILLS 60c Stimulant Diuretic to the Kidneys Foster-Milburn Co., Mfg. Chem., Buffalo, N. Y.

Meats,

Whether they be fresh, smoked or the cold-ready to serve—products, are always the choicest when they are purchased at our Market.

We buy nothing but prime stock on the hoof, kill and refrigerate it ourselves and we know it is good because we have had years of experience in handling meat products.

Orders by telephone always receive prompt attention.

Telephone 450

P. L. Beezer Estate Market on the Diamond BELLEFONTE, PA. 34-34

CHICHESTER'S PILLS

THE DIAMOND BRAND. Ladies! Ask your Druggist for Chichester's Diamond Brand Pills in Red and Gold metallic boxes, sealed with Blue Ribbon. Take no other kind of your medicine. Ask for CHICHESTER'S DIAMOND BRAND PILLS, for 25 years known as Best, Safest, Always Reliable. SOLD BY DRUGGISTS EVERYWHERE.

On Sale Now 82 PAIR MEN'S Walk-Over Shoes ALL NEW GOODS Broken lots. One and two pair of a size. WHILE THEY LAST-- \$4.35 These shoes are all our regular \$7 and \$8 values. Your size is here. Don't miss this. Its a real bargain. ITS AT FAUBLE'S

ATTORNEYS-AT-LAW

S. KLINE WOODRING.—Attorney-at-Law, Bellefonte, Pa. Practices in all courts. Office, room 18 Crider's Exchange. 61-17

J. KENNEDY JOHNSTON.—Attorney-at-Law, Bellefonte, Pa. Prompt attention given all legal business entrusted to his care. Offices—No. 5, East High street. 57-44

J. M. KEICHLINE.—Attorney-at-Law and Justice of the Peace. All professional business will receive prompt attention. Offices on second floor of Temple Court. 49-5-17

W. G. RUNKLE.—Attorney-at-Law. Consultation in English and German. Office in Crider's Exchange, Bellefonte, Pa. 68-5

PHYSICIANS

D. R. L. CAPERS, OSTEOPATH. Bellefonte Crider's Ex. 68-11 Holmes Bldg.

W. S. GLENN, M. D., Physician and Surgeon, State College, Centre county, Pa. Office at his residence. 35-41

C. D. CASEBEER, Optometrist, Registered and Licensed by the State. Eyes examined, glasses fitted. Satisfaction guaranteed. Frames repaired and lenses matched. Casebeer Bldg., High St., Bellefonte, Pa. 71-22-17

E. V. A. ROAN, Optometrist. Licensed by the State Board. State College, every day except Saturday. Bellefonte, in the Garbrick building opposite the Court House, Wednesday afternoons from 2 to 8 p. m. and Saturdays 9 a. m. to 4.30 p. m. Bell Phone. 68-40

Feeds

We keep a full stock of Feeds on hand all the time

COW CHOW 24% DAIRY FEED \$50.00 per Ton

Try our 22% Dairy Feed \$44.00 per Ton

We can make you a 30 to 32% Dairy Feed, to use with your corn and oats chop, made of Cotton Seed Meal, Oil Meal, Gluten and Bran at \$46.00 per Ton

Why pay more for something not so good?

Our Poultry Feeds Can't be Better

Scratch grains..... \$2.40 per H. Wagner's poultry Mash.. 2.90 per H.

Cotton seed meal 43%..... \$42.00 per ton Oil meal 34%..... 54.00 per ton Gluten feed 28%..... 42.00 per ton Alfalfa fine grade..... 45.00 per ton Bran..... 36.00 per ton Middlings..... 38.00 per ton Mixed Chop..... 38.00 per ton

(These Prices are at the Mill.)

\$2.00 per Ton Extra for Delivery.

C. Y. Wagner & Co., Inc 66-11-1yr. BELLEFONTE, PA.

Caldwell & Son Bellefonte, Pa.

Plumbing and Heating

Vapor...Steam By Hot Water Pipeless Furnaces

Full Line of Pipe and Fittings and Mill Supplies

All Sizes of Terra Cotta Pipe and Fittings

ESTIMATES Cheerfully and Promptly Furnished 66-15-17.

Fine Job Printing

A SPECIALTY at the WATCHMAN OFFICE

There is no style of work, from the cheapest "Dodger" to the finest

BOOK WORK

that we can not do in the most satisfactory manner, and at prices consistent with the class of work. Call on or communicate with this office

Employers This Interests You

The Workman's Compensation Law went into effect Jan. 1, 1916. It makes insurance compulsory. We specialize in placing such insurance. We inspect Plants and recommend Accident Prevention Safe Guards which Reduce Insurance rates.

It will be to your interest to consult us before placing your insurance.

JOHN F. GRAY & SON. Bellefonte 43-18-1yr. State College