

**Providence Institution  
for Savings**

Established 1819

**A Mutual Savings Bank**  
where interest is allowed  
from day of Deposit to  
day of Withdrawal

**MAIN OFFICE**  
86 South Main street

**OLNEYVILLE BRANCH**  
1917-21 Westminster Street  
Olneyville Square

**EMPIRE-ABORN BRANCH**  
Between Westminster and Washington Sts.

Open all business days and Tuesday evenings  
5 to 8:30. Olneyville Branch open  
Saturday evenings also.

**"The Old Stone Bank"**

MALEY & STYKES CO., PROVIDENCE

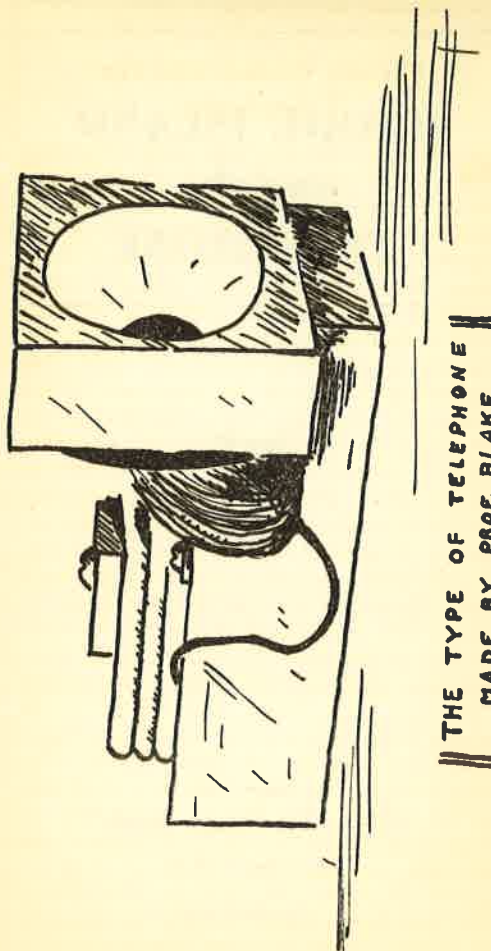
F  
79  
P971  
#115

**RHODE ISLAND  
and the  
TELEPHONE**



Presented by  
**"The Old Stone Bank"**  
Providence, R. I.

October 12, 1931



|| THE TYPE OF TELEPHONE ||  
MADE BY PROF. BLAKE ||

## Rhode Island and the Telephone

WITH THE familiar blue bell as the sign of the telephone the country over, sticking out from little wayside stores, painted on the glass of hotel and terminal booths, imprinted in the windows of drug-stores and cafeterias, and stamped upon millions of phone directories, it is but little wonder that the average person vaguely but usually realizes that the word "Bell" has something to do with the invention of the telephone. A pretty fair majority of the general population can do more, can in fact name Professor Alexander Graham Bell as the inventor. But very few, even among Rhode Islanders, can achieve complete accuracy by stating that Professor Bell was not the sole inventor of the telephone and only triumphed because of the patient research and experiment of two Brown University professors. The part which these two men, Professor Eli Whitney Blake and Professor John Pierce, contributed to the whole was perhaps of as great importance as all the work done by Bell himself. Yet because these two men, and their staff aids in the physics department, performed all their work in the true spirit of science and altruism and gave the results of their research freely for the benefit of mankind they have been almost forgotten in the pages of history, even by some historians who,

according to all pretensions, were qualified to write the biography of the telephone. However, let us take up the story as thoroughly as our limited space permits and clear up facts for once and all.

Professor Alexander Graham Bell came to this country from Scotland and, following in the footsteps of his father, taught a school of deaf mutes in Boston, being very successful. In his leisure moments he devoted most of his time to experimentation with telegraphy. During one of these experimental periods he discovered the first possibilities of telephone communication, quite by accident.

Professor Bell and his assistant, Mr. Watson, had set up some telegraphic instruments at opposite ends of a partitioned room and while Watson was engaged in snapping some reeds on his set of instruments, Professor Bell was carefully recording the results transmitted to him. One of the reeds accidentally fused, making a distinct sound which was communicated to Professor Bell.

"What was that?" he called to Watson. The latter explained.

"But I *heard* it!" exclaimed the professor in surprise. A few moments of reflection and he began to perceive the possibilities involved in the discovery and immediately set to work on apparatus which would transmit the human voice. This was in 1875. A year later he had been crudely successful inasmuch as he was able to send the famous

message "Come here, Mr. Watson, I want you," over a few feet of telephone wire stretched between two floors of a building. From then on he constantly experimented to make every possible improvement on his invention. He exhibited at the Centennial Exhibition and attracted some public attention, although those who saw his telephone decried its practicality.

So much for the well-known facts about Professor Bell. Hearing of his experiments and invention, Professors Eli Whitney Blake and John Pierce of Brown University set about re-working Bell's experiments and originating new ones. Bell had been working on the theory that the power of his instruments was proportional to their size. In fact, when he had an exhibition in Music Hall, Providence, he used some small instruments with diaphragms only an inch in diameter and then a large one with a diaphragm of fully one foot. These reproduced music perfectly but not the human voice.

Professor Blake conceived the idea of concentrating all sound impulses on the center of the diaphragm. He achieved this by reducing the size of the diaphragm to exclude alien sounds and then built a new type of converging or concave mouthpiece which centralized air vibrations made by a person talking.

In the home of Rowland Hazard on Williams Street Professors Blake and Pierce installed the first instruments over which speech could be recognized clearly. A large



gathering of people had been invited to witness and hear the experiment and many of these were completely startled to hear over this telephone the voices of friends they recognized but did not suspect were among the guests.

Professor Blake's instruments were made of black walnut with the mouthpiece and receiver all one unit weighing approximately 12 ounces. They were actually built by Dr. W. E. Channing, although according to the strict directions of Professor Blake. Details were crude but practical in effect. However, refinements immediately began to follow, one of the first being the use of the bar magnet in place of the horse-shoe variety, an improvement suggested by Mr. William Ely, a Brown University student working under Professor Blake.

Upon learning of the experimentation which was going on at Brown, Professor Bell succumbed to a fever of apprehension and wrote several threatening letters to Professors Blake and Pierce. The latter were amused but not at all worried. After they had finished their experiments, they packed one of their telephones into a cardboard box and sent it to Bell with their cards. They professed that, inasmuch as they had not been addicted to visions of possible wealth but had only been acting in the pure spirit of scientific investigation, he was wholly welcome to the fruits of their past labors and to the benefits of future experimentation. This generous action brought Bell to

Providence at once to meet and confer with his would-be friends. However, when he did announce his perfected invention, he did not give full credit to these men who had made his complete success possible.

Probably Dr. Walter Lee Munro, in his charming book, "The Old Back Campus at Brown," tells some of the story as well as possible. He says:

"In '75 and '76 many of the students in his (Professor Blake's) laboratory were making, under his guidance, a new device, since known as the telephone, with such success that they were able to converse over a wire from one room to another. Professor Blake, Professor John Pierce, and Dr. W. E. Channing had collaborated successfully in its development, working in the interest of science and with no thought of pecuniary gain, as is evidenced by the fact that their discoveries were at once passed on to the students. In the early stages a horse-shoe magnet was used in the receiver, making it so big and square and bulky in its wooden case as to be practically unmanageable with one hand. After much experimenting the horse-shoe magnet was discarded and a round bar-magnet used in its place, which, with its neatly turned, round casing, differed little externally from the receiver of today.

"There came a morning in '76 when the whole front page of the *Providence Journal* was taken up with descriptions and illustrations of Professor Bell's telephone, which had been patented and was then introduced to the public for the first time.

"Professor Blake came into the lecture room in a state of great excitement, a

copy of the paper in his hand and addressed us substantially as follows: 'Gentlemen, you have all seen the announcement of *Professor Bell's telephone* in the morning's paper. You are all familiar with the instrument; some of you have made them. I want to tell you that several weeks ago Professor Bell came down from Cambridge to compare progress with Professor Pierce, Dr. Channing and myself. He told us that he had mastered the principle of the telephone but had not been able to devise a receiver which was not too cumbersome for use. We showed him *our* receiver, which you all know. I will ask you to compare that with the one pictured in the paper today.' It was Professor Blake's hour of triumph for *he* knew and *we* knew whereof he spake."

Professor Blake was much beloved by his students and had been professor of physics at Brown for 25 years. He had an unusual knowledge of innumerable odd subjects and was a man of tremendous energy, not given to talk. It is very strange to learn that a man of such wide knowledge and supposed tolerance in the fields of science should utterly refuse to accept proof that a baseball could be pitched in a curve, saying that mathematically and physically such a thing was impossible, and even adding that if he should actually witness such an event he should say that his eyes had deceived him.

In 1877, Professor Blake continued his experiments at Peacedale, R. I., where he set up for use as a practical convenience a

telephone line between the home of Rowland Hazard and that of his brother. This line was one-quarter of a mile long and was the first to be used for other than experimental purposes.

However, at about this time, a Dr. Fenner H. Peckham, later an official of the Providence Telephone Company, established telephone communication between his home at 27 Benefit Street and his office near the railroad tunnel on North Main Street. This line was half a mile in length and made use of the telegraph lines already strung between the two locations. Over this line was transmitted the first call for medical assistance ever sent by telephone, a call which immediately demonstrated the tremendous practical value of the new invention.

We know now, at least, that without the telephone we should never have silhouetted skyscrapers against city skies. It has been an invention that has directed much of the march of civilization.

One of the very first long distance calls made by telephone was put through between Boston and Providence on March 10, 1877, with Professor Bell here in Providence communicating with Mr. Watson in Boston. The first trial was made in the old Union Depot, using the Boston and Providence telegraph line, but although sounds could be heard, the number of relays and the force of the wind blowing against the wires made speech intelligible. The party then adjourned to make use of a new telegraph line in the edi-



torial rooms of the *Star and Press* on Dyer Street, and the second trial proved entirely successful. It must have been thoroughly amusing, because Charles E. Lincoln, a *Sunday Dispatch* reporter who had trailed the party to the editorial rooms of the rival paper and then listened with his ear to the door, reported that he had heard some of the experimenters saying "Bow-wow" over the wire and then singing "Auld Lang Syne."

These incidents suffice to bring to light Rhode Island's part in the development of the telephone. Henceforth let those who hail the name of Alexander Graham Bell give equal praise to those of Eli Whitney Blake and John Pierce.

Additional Copies of this Booklet sent  
upon request

ADDRESS

"THE OLD STONE BANK"  
86 South Main Street  
Providence



THE PROVIDENCE INSTITUTION FOR SAVINGS, familiarly known as "The Old Stone Bank," is in its own right a historic institution of Rhode Island. Founded in 1819 as one of the first mutual savings banks in the country, it has since contributed vitally to the development and life of this community.

Proud of its own historical significance, "The Old Stone Bank" has adopted this method of educational advertising to bring to light much that is of value and significance in the colorful annals of Rhode Island and national history.

The sketches and vignettes of old-time Rhode Island and Rhode Islanders that are broadcast weekly and then printed in this form are selected from local historical records which are full of the picturesque, romantic, and adventurous. In the hope that these glimpses into the lives, customs, and environment of our progenitors may be both revealing and inspirational to young and old, this booklet is presented with the compliments of

THE OLD STONE BANK