

VOICE PHOTOGRAPHS APPEAR PERFECTED

Two New Devices Expected
to Make Talking Films
a Reality.

NOT LIKE PHONOGRAPH

Dancing Light Only Me-
dium Used in Making the
Original Records.

WIDENS USE OF RADIO

Speeches May Be Stored In-
definitely, Then Sent
Out Broadcast.

When Thomas A. Edison went up to Schenectady not long ago to exchange sparks with Charles P. Steinmetz, the wizard maintained up there by the General Electric Company, Steinmetz showed him, among other marvels, a new device to photograph the human voice and to reproduce it not as a picture but as the actual sound of the voice itself. At that time the company wasn't ready with the details of the new wonder, but yesterday these were supplied by Charles A. Hoxie of the General engineering laboratory, who has brought the "paliophotophone," as the device is called, to a state of perfection.

A dozen practical applications are to be made of this voice photography. It is regarded as the apparatus which will make talking movies a successful reality, and the prediction among the electric experimenters is that the day is very close when moving pictures

with speaking characters will be seen and heard every day in the movie theaters. The paliophotophone has introduced into radio broadcasting an entirely new element, the possibility of making a master record of a speech and of broadcasting it days or weeks later from scores of radio sending stations in various parts of the country. It has been done successfully in experiments at the General Electric Company's plant.

Done by Dancing Light.

There are two distinct devices in the paliophotophone. One is the device that records the sound and the other is the device that reproduces the sound. The first of the two consists essentially of a tiny mirror, hardly bigger than the head of a pin, on which is reflected a beam of light. The mirror is attached to a most delicately adjusted vibrating diaphragm. When sound waves, originating with the human voice or any other nearby sound, reach the diaphragm, causing it to vibrate, the mirror oscillates and the reflected beam of light moves with it. This moving

ray falls upon a strip of photographic film which passes in front of it in continuous motion. The film, upon being developed, shows a succession of delicate dark up and down markings on a clear background. The dancing beam is what gives the apparatus its name, for "pali photo" are Greek words, meaning "shaking light." The record secured on the film is a faithful record of the sound because of the extremely small size of the little mirror and its diaphragm and their low inertia. These characteristics enable the "dancing light" that catches all the fine overtones, speech shadings and syllable sounds,

How Voice Is Reproduced.

When the time comes to reproduce the record, which has been obtained in the manner just described, an entirely different contrivance, the reproducing device, comes into play. These two devices are so independent of one another that each can be removed from the apparatus while the other is in use. The reproducing device is electrical in mode of operation as distinguished from the mechanical principles employed in the recording device. The photographic film, on which the record of the sound has been made, is wound on a reel so that it passes in front of an extremely

sensitive electrical apparatus. This apparatus consists of an ingenious arrangement of vacuum tubes.

Its particularly notable characteristic is that it responds to variations in the light falling upon it with such instantaneous speed that it can only be compared to the speed of light itself, or to the speed with which wireless waves travel through space. Consequently, when the film is moved continuously in front of this device an electric current is created which corresponds with great accuracy to the original sound wave, as represented by the markings on the film. This electric current is then made to actuate a telephone, a loud speaker or to operate directly radio broadcasting apparatus without the use of a microphone or the pick up devices ordinarily used.

Talking Movies Seem Sure.

This shows how the Paliophotophone can be used to produce, at some central studio, a master film from an artist's concert number or a man's speech, this film later being copied and sent to broadcasting stations anywhere,

to be sent out by radio. In addition, however, it might be used to make a record of a speech of any great figure in American public life on any memorable occasion, and to reproduce this speech for future generations in the true voice of the man himself.

If the Hoxie apparatus had been in existence in 1863 and had been taken to the Gettysburg dedication, the immortal Gettysburg address of Abraham Lincoln, in the very voice of the great emancipator, could be heard to-day by the millions who have been born long after Lincoln had breathed his last.

As an apparatus which may, and probably will, produce talking movies, and as the recorder of speeches, songs and whole concert programs, which can be broadcast by radio at any subsequent time, is a wonderful enough.

But that does not tell half the story of its possible applications. It can be employed to make a master phonograph record with most successful results. Its big advantage here is that a whole chorus can sing into a phonograph horn and its rendition can be reproduced with great fidelity.

LEAPS FROM LINER, FACING DEPORTATION

Young Czecho-Slovakian
Pleads in Vain to Remain,
Then Tries to Die.

Ordered deported from the United States, Felix Gulej, 22, a Czecho-Slovakian, attempted suicide by leaping from the deck of the White Star liner Homeric yesterday as she was about to sail from pier 59, North River, for Cherbourg and Southampton.

Hundreds of passengers saw the young man over the side and saw him refuse the aid of a rope thrown from the pier by

William Evers, a longshoreman. He had gone down twice when John Norton, another longshoreman, jumped onto the float between the pier and the ship and fastened a rope around his shoulders.

When Gulej was raised to the deck he was found in a serious condition and was taken to the ship's hospital, where he remained when the ship sailed.

The Czecho-Slovakian arrived in this country aboard the Majestic October 25 and managed to evade the immigration officials at Ellis Island, who admitted him, only to find later that he was illiterate and otherwise unfit to enter. A search was instituted and he was found working as a shoemaker in Binghamton, N. Y. He pleaded at first to be allowed to remain and lapsed into an apathy that lasted until his leap from the Homeric.

Col. William A. Gaston, Democratic opponent of Senator Lodge of Massachusetts in the last elections, was a passenger on the Homeric. He and his

wife will remain abroad a month. "I do not concede Senator Lodge's election," said Col. Gaston. "The count in Massachusetts is only a newspaper count so far." The result of the recount will be called to him by his associates.

Eighty thousand packages of Christmas toys and large quantities of candy and clothing, all for children of Austria and Hungary, were on the America of the United States Lines when it sailed yesterday from Pier 4, Hoboken. They were provided by the Junior Red Cross and were in charge of Capt. Joseph Bedlow, who will be Santa Claus.

When the steamer was in midstream Mrs. Margaret Kavalek and her daughter, Wilma, aged 4, of 315 East Eighty-first street, Manhattan, arrived at the dock. Third class passage had been booked for them on the ship. Mrs. Kavalek began to cry, and B. J. Dunningan, assistant passenger manager of the line, had her and the child sent aboard the America on a tug.

Channing E. Cox, who was re-elected Governor of Massachusetts last week, sailed with Mrs. Cox on the United Fruit liner Skaola for Havana.

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Black, brown or gray
wraps with collars and
cuffs of dyed Fitch
fur; 45 in. long. 325.00

Caracul Fur Long Wraps

Flat moire black caracul
with large Kolinsky fur
collars and cuffs;
48 in. long. 595.00

Caracul Fur Long Wrap-Coats

Black or beige; large
collars and cuffs of dyed
Fitch fur;
46 in. long. 395.00

Caracul Fur Long Wraps

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and cuff band;
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