

Electric Eye Counts Loaves

ONE large London bakery has applied the electric eye, or photo-electric cell, to the counting of loaves of bread as they came from the ovens on a conveyor band. The eye is mounted under the band and a light source above it. As the shadow of each loaf cuts off the light to the cell, a counting machine is set into operation.

Loud-speaker in Court

SHY witnesses in South African courts who refuse to talk louder at the behest of counsel or Judge now fill the courtroom with their voices whether they wish or not. Court-rooms are equipped with microphones in front of witness-boxes, these leading to amplifiers. Through these the lowest-voiced witness can be heard distinctly in every part of the room.

"Silent" Paper for Broadcasting

TO end the harsh crackling sounds produced by ordinary notepaper in the hands of a speaker before the microphone, a special "silent" writing paper is now being used in some radio-broadcasting studios. This paper can be shuffled or crumpled without making any sound which would register on the recording apparatus.

Telegrams from Planes

PASSENGERS on some European aeroplane routes are now able to send private telegraph messages while in flight. This is made possible through an agreement on a fixed tariff by the aerial radio service of the route and the post administration offices of Czecho-Slovakia and Austria. The messages are sent by radio to the airports and forwarded by telegraph to the addressees. Code messages are not accepted.

Radio Amplifier Controls Violin Tone

ONE violin virtuoso has equipped his instrument with a radio amplifier which increases the tone volume fiftyfold. The amplifier consists of a phonograph pick-up with loudspeaker mounted, by means of a bracket, on the tailpiece of the violin, its needle making contact with the top sounding board just behind the bridge. Tone volume is controlled by a potentiometer operated by an assistant who can regulate it at will from the faintest pianissimo to a fortissimo of far greater volume than any single instrument would be capable of producing, yet the tone is without distortion and even more warmth and fullness.

Hence the attachment is of special value in executing triumphal music where unusual volume is warranted. This suffices for one instrument, but in a quartet a device is added which equalises and blends the frequencies.

Medical Advice by Radio

WHEN a passenger or member of a crew of a ship at sea becomes ill, the commander of the vessel or those caring for the sick may obtain expert medical advice by radio by applying to a station at Cuxhaven, on the North Sea, Germany. This station is under the control of the German Post Office Department and is specially equipped for giving medical information to ships applying for it. The message for aid is made by radio telegram or phone, and the staff of the Hamburg State Hospital supplies the information.

Robot Boatswain

FORTY loudspeakers compose a robot boatswain's mate on a large battleship recently constructed in England. The telephone-radio equipment, located at strategic points over the vessel, shouts the commander's orders in stentorian tones heard by every member of the crew. At other times the system broadcasts music from the ship's orchestra. As a test before the apparatus was accepted, men with heavy sledgehammers beat on the iron plates to which the speakers were fixed, the amplifiers being required to operate in spite of this abuse.

Daily Newspapers on Liners

WORLD news events are brought to passengers on the trans-Atlantic liners through the medium of a daily newspaper printed in tabloid form each 24 hours of the voyage from information received by radio. Usually the current news is condensed to about 2000 words, the rest of the ship paper being devoted to short features and advertising. In this condensed newspaper, however, the ocean-going reader gets a fairly comprehensive glimpse of world events. Part of the paper is prepared before sailing, the features and advertising being printed beforehand, with one or two pages left blank for the current news. This daily digest is sent to the vessels by radio after it has been edited to bare facts.

Dial System

REMOTE control of the radio now is possible with a dial system, similar to that used in dialing numbers on automatic telephones. By dialing simple number combinations, radio programmes and recorded music can be brought into different rooms of a home from a master radio-gramophone outfit installed in attic or basement. The dial control is mounted on a small ornamental box with pilot light and is installed at desirable locations throughout the house, providing complete operating control of both the radio and gramophone.

Up to eighteen different stations are pre-tuned and adjusted to the master dial unit, to respond to easy code-number combinations, and the automatic gramophone is similarly adjust-

ed. To bring in a radio programme to one of the rooms, the dial is twirled to the code number of the desired station.

In the same way, a code number is dialed to raise or lower volume, start or stop radio music, and to play records or reject them. The volume of each loudspeaker may be separately regulated by any of the dial controls. The code numbers are conveniently listed in the lid of each control box. For the gramophone, the code number of the record-changing device is dialed, and the machine plays a continuous programme of twelve records.

Crime Information by Radio

AT a recent congress of European police officials and criminologists, a plan was adopted to create an international radio clearing house for all information pertaining to crime and the detection of criminals. A Berlin station was selected as the central broadcasting agency and the system already has been adopted by Germany, Austria, Poland Czecho-Slovakia, Switzerland and Hungary. The Berlin station will broadcast regularly crimes committed, descriptions of suspects, or, if they are known, complete information about criminals with pictures, fingerprints, and Bertillon measurements supplied by telephotographic apparatus.

Airplane Control by Radio

AIRPLANES can now be flown so accurately by instruments alone that the human pilot is virtually idle after having once set his course. The pilot of an army plane that was being steered automatically recently submitted to a radio interview, turning his ship over to the robot pilot and conversing with interviewers on the ship and others on the ground, questions and replies being heard by a radio audience. A magnetic compass is responsible for the success of automatic steering.

Heretofore the pilot has had to steer the ship himself, relying on his instruments or on visual observations around him. Now he simply sets his course and turns the plane over to the magnetic compass. A further development is control of the steering equipment by radio beams which are already in use on airways. In combination with gyroscopic devices, the course of flight and the altitude of the plane may be controlled without the pilot's assistance. Altitude is determined by a sonic altimeter, the interval between an emitted note and its echo indicating height, the echo being received audibly or registered on a meter.

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