



Ericsson News

DECEMBER 1927

English edition.

Managing Editor:

Woldemar Brummer

No. 9

— **Ericsson Telephones Ltd.** London, has obtained a new order from the British Post Office for an automatic telephone exchange to be installed in London, and known as the 'Shepherds Bush' Automatic Exchange.

The equipment is of the British standard type for director areas. London is equipped with this type of apparatus, which simply indicates that a special piece of apparatus called the director is used for routing the call through the various exchanges in London area in the most effective way, and as soon as connection is set up through the different switches it will be disconnected and available for routing other calls.

The order comprises complete apparatus for 4000 subscribers and an ultimate capacity of 9600.

For this first installation is needed about 1300 selectors, 550 final selectors and 75 directors with complete racks.

Besides the above-mentioned items, Ericsson Telephones Ltd has to supply 15 two-panel manual position boards, power plant, meters for subscribers' calls, 22 motor driven interrupters, 2 repeater racks, 3 junction relay racks, 1 coder rack, 1 sender rack, main frames and distributing frames. The testing facilities are provided for by a two-section test desk.

— **Ericsson Telephone Exchanges in Czecho-Slovakia.** — **Reichenberg**, a city with a population of about 75000 — including the surrounding districts — an center for the textile industries of Czecho-Slovakia, had formerly a magneto exchange for about 1200 subscribers' lines and equipped with bulls'-eye call indicators combined with jacks of the 'Czejja-Nissl & Co' system.

Later on, the telegraph administration replaced these indicators with signal lamps since the above-mentioned type of bulls'-eye indicator proved unpractical on account of the gradual blackening of the red painted portion of the eye-ball which became visible when the indicator was actuated, so that these signals became almost indiscernible. The Ericsson type of drop indicators combined with jacks were chosen for the planned extension of the exchange.

The extension of the Reichenberg exchange comprised six operators' positions, each for one hundred lines, making a total capacity of six hundred lines, together with thirty junction lines for communication with the older portion of the exchange.

As already mentioned, the extension was executed according to the Ericsson System with combined drops and jacks. Quite some difficulty was encountered during the work of installation as no interruptions in the service were permitted at the same time as it was necessary to establish absolutely efficient lines of communication between the old and the new systems. The connecting up of the new multiple to the old one — composed of 83-conductor cables — without interrupting the traffic was especially difficult, but these various stages in the work of installation were successfully accomplished without causing any



irregularity in the service and to the complete satisfaction of the telegraph administration as well as of the subscribers.

It is to be observed that the extension of the Reichenberg exchange was not accomplished with multiple cables of the type previously used, but by means of Ericsson multiple mats, the construction of these last having been found exceptionally practical by the Czecho-Slovakian telephone administration. After a three months test, this installation was accepted unconditionally by the Postal and Telegraph Administration.

Later on, an Ericsson automatic exchange of the OL 500-type was erected in **Rosenthal**, a suburb of Reichenberg. This exchange is connected to the main exchange and is also giving highly satisfactory service.

- A C. B. exchange, consisting of
- 11 operators positions, each for 120 lines and with fifteen pairs of cords,
 - 1 junction board for toll traffic,
 - 2 annexes, one of which serves as a concentration board for toll traffic, with twenty incoming toll lines and two transit lines

has been delivered to the city of **Warnsdorfer**.

The power plant furnished for this exchange consists of two 32-volt and two 24-volt storage batteries with a combined tension of 56 volts and a capacity of 270 amper-hours in each battery group, the machine aggregates consisting of two charging machines and one ringing machine. Since the C. B. system was adapted for local traffic, the exchange was also adapted for this system.

— The city of **Eger** is being furnished with a C. B. telephone exchange with a capacity of 1080 subscribers' lines and consisting of

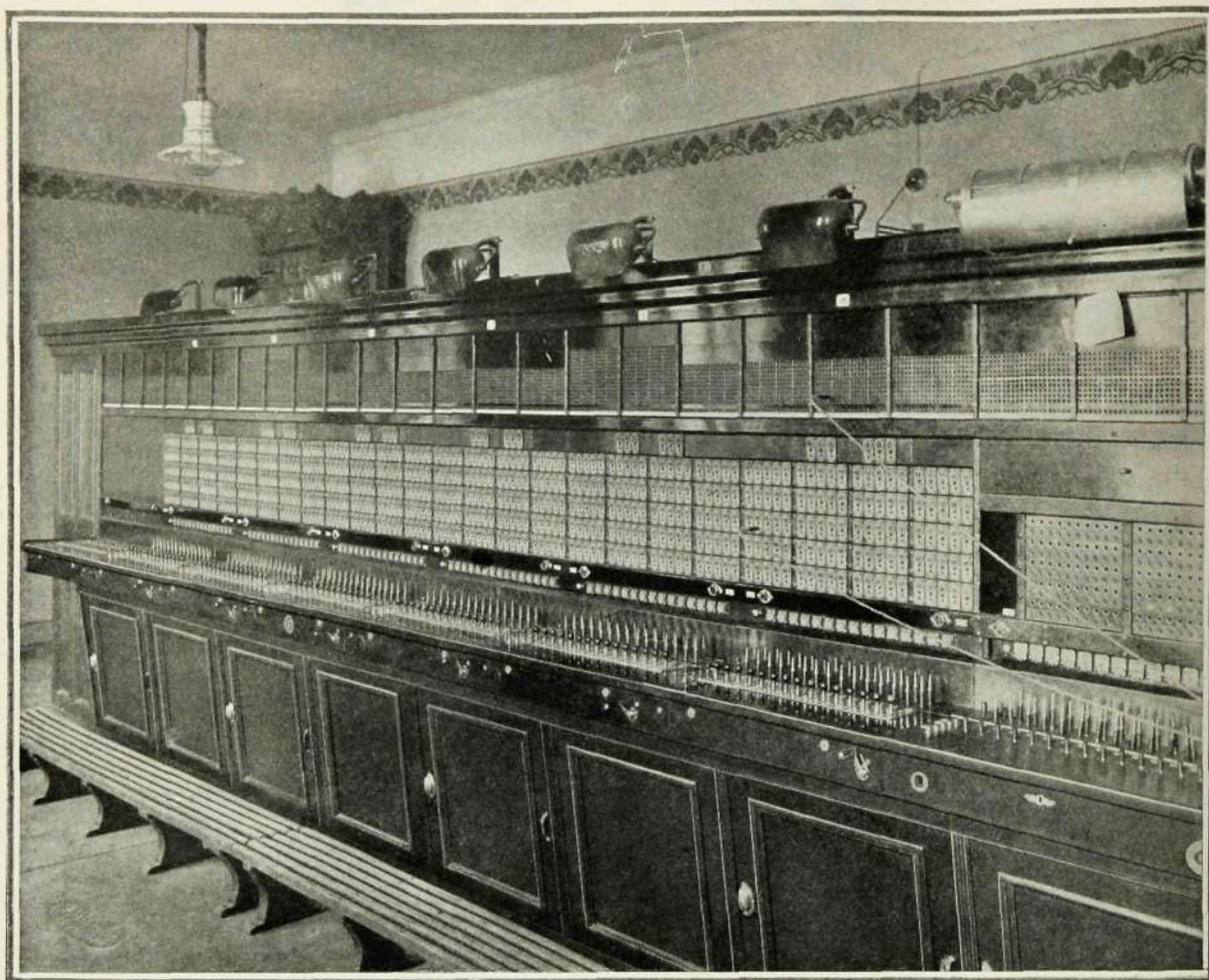
- 9 operators' positions, each for 120 lines and fifteen pairs of cords,
- 1 junction board for the toll traffic,
- 2 annexes, one of which will serve as a concentration board for toll traffic, with twenty toll lines and six transit lines.

The exchange will be equipped with two 32-volt and two 24-volt storage batteries with a total tension of 56 volts and a capacity of 145 amper-hours in each battery group. In addition there will be two charging machines and three ringing machines.

Both of these last-mentioned exchanges are provided with subscribers' meters which register a call as soon as the handset of the called subscriber is removed from the cradle rest.

All of the above-mentioned exchanges are delivered by »Ericsson Elektrotechnická Kommanditní Společnost«, Scholta a Spól., Praha, Ericsson's subsidiary in Czecho-Slovakia.

— **New Manual Exchanges in Hungary.** It was in 1925 that the Ericsson branch in Hungary, 'Ericsson' Ungarische Elektrizitäts Aktiengesellschaft, Budapest, began to deli-



R 800

The Reichenberg Exchange, Czechoslovakia. View showing Extension.

ver large telephone exchanges to the Royal Hungarian Post Office. A manual exchange with an initial capacity of 1000 subscribers' lines and 30 toll lines and a maximum capacity of twice this amount was manufactured, installed and put in operation in **Kaposvár**, business center for a fertile agricultural district in southwestern Hungary and an important railway junction on the Budapest-Fiume line.

This exchange comprises five operators' positions for local traffic, one junction and information board and four toll positions. All the switchboards are placed in one single row with the junction board in the centre and possibilities for extension at each end. The local traffic is handled according to the Ericsson C. B. system. The multiple cables lead to all the toll boards, for which purpose series jacks have been used, thereby facilitating the toll service. A supervisor's desk is also included in the exchange equipment. The line relay rack with intermediate distribution facilities, the main distributing frame and the power plant — with the exception of the storage batteries — are mounted in a room adjoining the operating room. In addition to the necessary switches, rheostats and meters, the power board contains all the fuses required for the distribution of power. All details of construction, connections and placing of cables have been worked out with special consideration for the local conditions as well as the special requirements of the Hungarian Post Office, resulting in a standard type of telephone exchange for Hungarian country towns.

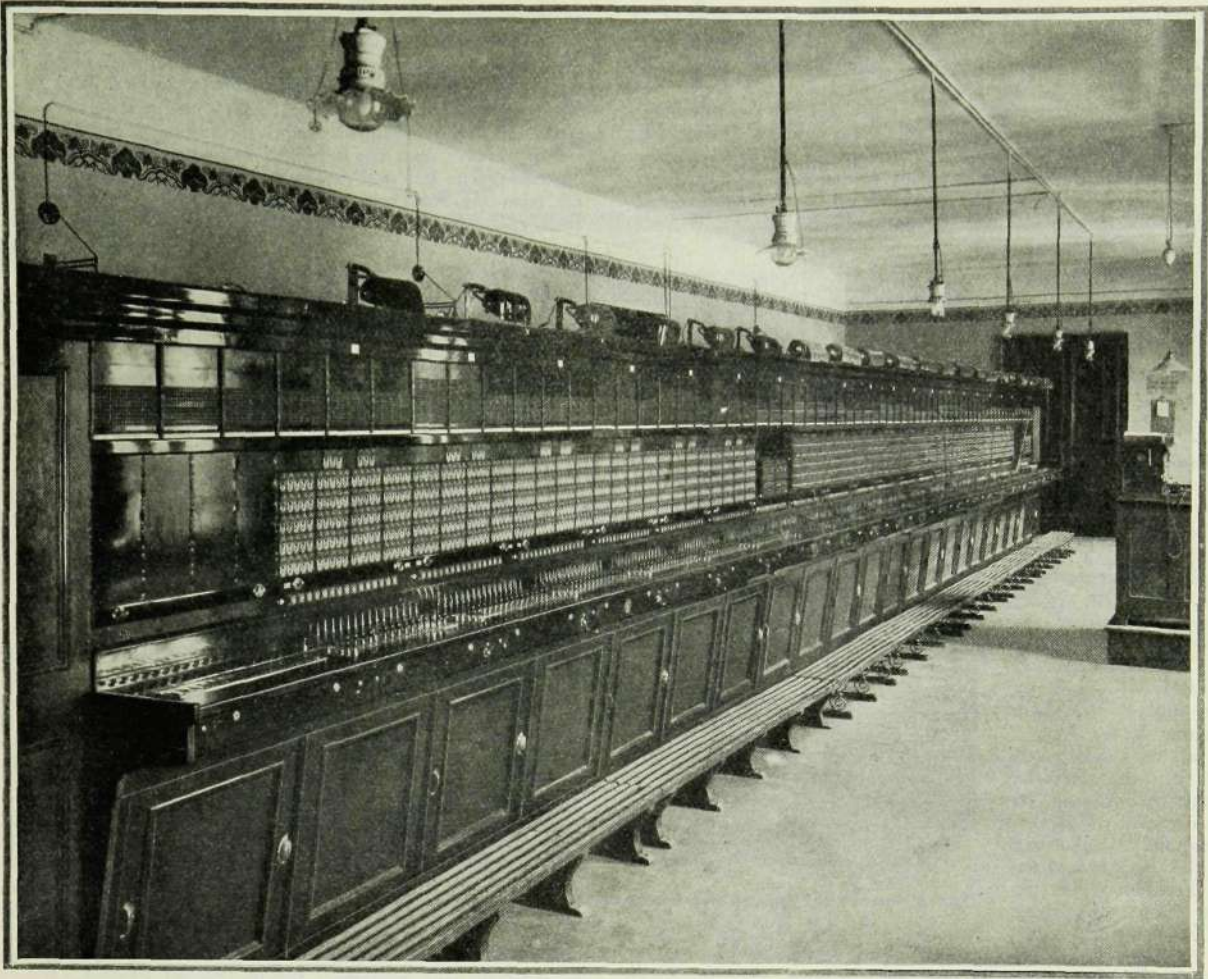
The Hungarian Ericsson company has also contracted for the delivery of new telephone exchanges for the towns of **Békéscsaba** and **Hódmezővásárhely**. Here, however, it will be necessary to use for local traffic purposes switch board framework, relays, multiple jack-strips with cables and other parts formerly belonging to two of Budapest's main exchanges but which has now become available through the automatization of

the Budapest net. The six operators' positions, which were originally constructed for a multiple capacity of 20000 lines will now be reconstructed for a multiple capacity of 600 lines and a maximum capacity of 1200 lines.

To begin with, each of the above-mentioned towns will have three positions for the local traffic. The contract calls for one new junction board for each exchange as well as six new toll positions for the one and two for the other. The switchboard framework, multiple jack-strips and relays will be of the same types as have been used for Kaposvár.

— **Notes from Roumania.** Swedish industry and Swedish industrial products were until not so very long ago practically unknown in Roumania. Barely two years ago, the 'Energia' company, one of the most prominent electrical firms in Roumania, decided to introduce industrial products of Swedish origin. These endeavours met with extremely sharp opposition on the part of firms and industries which were desirous at all price of preventing the importation of Swedish products, so well known over the whole world for their excellent quality and workmanship.

In spite of these difficulties and of the serious financial crisis which Roumania has had to pass through during the last years, 'Energia' was successful in executing a number of power plants equipped with Swedish machinery. A 550 H. P. Diesel motor from 'Atlas-Diesel' in Stockholm, coupled for the direct drive of an 'ASEA' direct current generator was installed in Pitesti. The Vălmăreanu works in Câmpulung were equipped with a 200 to 600 H. P. Kaplan turbine, built by the Karlstads Mekaniska Verkstad in Kristinehamn, Sweden, and the first of its kind in Roumania. The vertical generator was furnished by the electrical firm Luth & Rosén in Stockholm. This plant is connected to another by means of a 5500-volt high tension line erected by 'Energie'. A 550 H. P. Francis



R 801

The Reichenberg Exchange. Total View.

turbine of the same make for the direct drive of an ASEA generator is supplying the town of Zoodt, near Sibiu, with power. Another smaller Francis turbine for 30 H. P. — also from Karlstads Mekaniska Verkstad — has been erected on the estate of engineer Virgil Alimănisteanu in Crevedia, near Bucarest.

Quite recently, a 300 H. P. Diesel motor was ordered from 'Atlas Diesel' for the electric power plant of the town of Caracal. Also 'Atlas Diesel' has obtained an order through 'Energia' for a number of small diesel motors of 70 and 15 H. P. for the estate of Mr. Filitis, near Bucarest, one 70 H. P. motor for Afumati and another 7 H. P. motor for Budachi.

As general agents for the Skandia motor works in Lysekil, Sweden, 'Energia' has installed two 80 H. P. semidiesel motors in Pascani and delivered one 25 H. P. motor to Bran, one boat motor to a Roumanian fisheries concern, etc.

It was thanks to the efforts of 'Energia' that ASEA (General Swedish Electric Co.) was successful in obtaining an order for Arsenalul Armatei, Bucarest, for a 370 kilowatt 3-phase generator and a synchronized asynchron motor, and this in competition not only with the firms already established in Roumania, but also with Siemens-Schuckert, A. E. G., Brown Boveri and others.

The Swedish turbine works, Aktiebolaget Ljungström STAL are about to undertake some important deliveries. This is a notable success, as competition in this line has taken on unusual proportions.

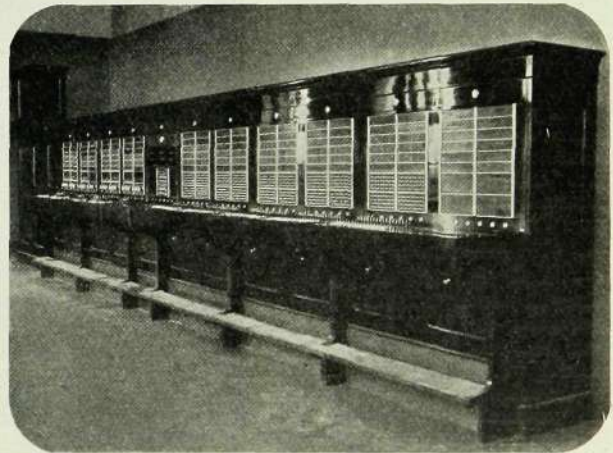
Finally, the Swedish machine works 'Baltic' are represented by 'Energia', and their sales in Roumania are experiencing a steady increase.

Considering the fact that 'Energia's' activities are not more than two years old, the result must be considered a very auspicious

beginning for the introduction of Swedish industrial products in Roumania.

'Energia' is the Roumanian representative for Telefon-aktiebolaget L. M. Ericsson, these two companies being closely related.

— **Litterature.** Before the end of the year, the Swedish edition of numbers 10 to 12 (fourth quarter) of **The L. M. Ericsson Review** Vol. IV (1927) will appear in print. This number will contain the following articles: *Person to person calls in the toll telephone traffic*, by A. Lignell, superintendent



R 826

Kaposvár. View of Switch boards.

of telephones in Stockholm; *The International Chamber of Commerce and the European International Telephone Traffic*, by A. Lignell, superintendent of telephones in Stockholm; *General Theory on Homogeneous Parallel Lines*, a paper read by H. Pleijel on September 15th of this year at the International Telegraph, Telephone and Radio Convention in Como; *The Interlocking Plant for the Track Junction East of the Torup Station*, probably the smallest plant of its kind in the world; *The Voting Machine of the Finnish Parliament*, a more detailed technical description than the one published in the 'Ericsson News', number 7, page 4, for the current year. The English, French, Spanish and German editions of this number of the 'Review' will appear during January 1928.

— **Tekniska Meddelanden från Kgl. Svenska Telegrafstyrelsen** (Technical Information from the Royal Swedish Telegraph Administration) Nos. 9 & 10, 1927, contains a paper on *The Possibilities for the Development of Broadcasting* read by the author, telegraph engineer Siffer Lemoine, at the yearly meeting of the Svenska Teknologföreningen on the occasion of the tricentennial anniversary of the Royal Institute of Technology on the 21st of September 1927 — see the notice in 'Ericsson News' No. 7, 1927, page 2, under the caption 'Teknisk Tidskrift'.

— Number 6—7, 1927 contains a paper by D. Stenqvist, Ph. D., of the testing laboratories of the Telegraph Administration, entitled *On Disturbances in Low Tension Lines caused by Atmospheric Electrical Discharges*. This article describes the phenomenon of lightning and contains reviews of the qualitative and quantitative investigations of this same phenomenon carried out by noted authorities. Further, the results of the general statistical investigations made on this subject in Sweden from 1730 to 1915, the statistical data collected between 1891 and 1923 by the Department for Lightning Rod Inspection in Stockholm and, lastly, the observations of the author from 1923 to 1926 are here mentioned. Among other interesting facts brought out by the investigations made by the author we find that of the 1125 data on damage by lightning on which a single investigation was based 38.7 % affected subscribers' instruments, 31.4 % fuses and heat coils 13 % drop indicators, 12.8 % cables and terminal boxes and 4.1 % the remaining equipment.

— **Red Telefónica de Guipúzcoa, Memoria relativa al Ejercicio de 1926** — the title given the yearly report for 1926 issued by I. M. Echaide, director for the telephone plant of the Spanish province of Guipúzcoa — is of special interest, on account of the partial automatization according to the Ericsson system of the net

of the province of Guipúzcoa, the capital of which is the city of San Sebastián (see 'The L. M. Ericsson Review', Vol. III, Nos 5 & 6, page fifty, and Nos 7 & 8, page ninety-three).

— **Zeitschrift für Fernmeldetechnik, Werk- und Gerätebau**, No. 10, October 1927, contains the article 'L. M. Ericssons Selbstanschluss-System. Erfahrungen am Stockholmer Fernsprechnet über die Betriebssicherheit und den Unterhalt des Systems' (The Ericsson Automatic Telephone System. Experiences from the Stockholm Telephone Net Concerning the Efficiency and Maintenance of the System), by Superintendent of

Telephones A. Lignell, Stockholm, and published in The L. M. Ericsson Review, Vol. IV, Nos. 7 to 9.

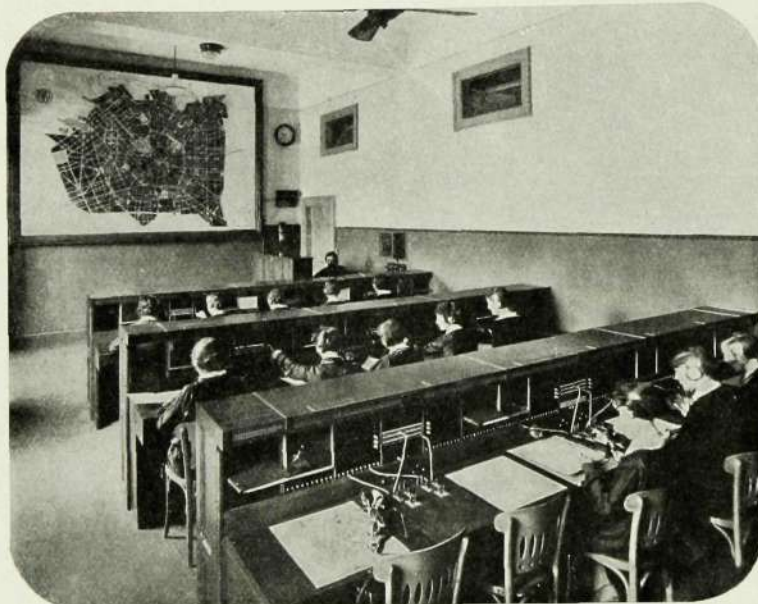
— **Teknillinen Aikakanslehti** (Technical Journal) Helsingfors, Finland, No. 10, October 1927, page 499, contains a description by A. Blomqvist of the automatic voting device delivered in August of the present year to the Finnish Parliament by Telefonaktiebolaget L. M. Ericsson, Stockholm, through the good offices of Ericsson's subsidiary in Finland (see page four of 'Ericsson News', No. 7, 1927).

— In **Swiat** — a Warsaw publication — for October 29, 1927 (No. 44), page 44, is printed an article on 'Polska Akcyjna Spółka Telefoniczna', an operating concern affiliated with L. M. Ericsson and owners of the telephone concession for the capital of Poland as well as for the cities of Łódź, Lemberg, Lublin, Białystock and surrounding district, and the provinces of Sosnowiec and Borysław. The above-mentioned company is a successor to the Swedish company Telefonaktiebolaget Cedergrén, owners of the telephone concession for Warsaw since 1902, and the article in question touches on its history and operations during latter years, especially with regard to its rate policy. The article contains a number of figures providing interesting comparisons with other countries and which clearly demonstrate the efforts of the company to give its subscribers fair treatment in this respect.

— Of the publications issued by **The International Consultative Committee for Long Distance Telephone Communications**, we take pleasure in announcing the following.

1. *Compte-Rendu des Travaux de l'Assemblée Plénière du Comité Consultatif International des Communications Téléphoniques à Grande Distance*. (Paris, 29 Novembre—6 Décembre 1926). 4:0, 383 pages, 98 illustr. Price 20 fr. (post paid, in France: 23 fr., other countries 26 fr.).

2. *Avis du Comité Consultatif International des Communications Téléphoniques à Grande Distance concernant les questions de transmission, d'entretien et de surveillance*. 4:0, 280 pages, 98 illustr. Price 15 fr. (post paid in France: 17 fr., other countries: 19; 50 fr.).



The Milano Taxi Telephone Exchange. See Ericsson News No. 6, 1927, p. 2.



Stockholm 1928. Kurt Lindberg, Boktryckeriaktiebolag.