



Ericsson News

JANUARY 1928

English edition.

Managing Editor:

Woldemar Brummer

No. 1

Look forward!

The past year has for the Ericsson concern been characterized by substantial gains within all fields of operation. Orders received and deliveries executed by the manufacturing and sales organizations as well as the number of subscribers of the operating companies have shown a powerful increase. The greatly increased amount of work has required the straining of every nerve. I can state with the utmost satisfaction that every member of our organization has to the best of his ability been instrumental in the achievement of this excellent result. There is reason to believe that our gains during the coming year will be still greater.

I want to express my appreciation of the work that has been accomplished and at the same time extend my best wishes for

A HAPPY NEW YEAR

to every member of this organization.

Stockholm, January 1st 1928.

TO OUR READERS.

One year has now elapsed since the appearance of the first number of the **Ericsson News**, and we have had the satisfaction of finding that this publication has more and more come to be a uniting bond between the various companies, members, customers and friends of the Ericsson organization.

In order to more completely devote our services to the common purpose, we have decided—beginning with the present year—to introduce a **Query Column** for the benefit of our readers, in which questions from them on subjects of general interest and lying within the scope of our activities will be treated. We urge all those who, in their daily work in the service of the Ericsson concern, encounter problems of a more general interest and suitable for open discussion, to send in their questions to the **Editor of the Ericsson News, Döbelnsgatan 18, Stockholm**, after which they will be submitted to our various experts. The answers will then be published in the Query Column.

THE EDITOR.

The Ericsson Automatic Fire-Alarm System in the Oscar Theatre, Stockholm.

On January 7th the automatic fire-alarm system recently installed by L. M. Ericsson in the Oscar Theatre in Stockholm was demonstrated by the inventor, Mr. H. Ekman, telegraph engineer for the Stockholm fire department, for the benefit of Swedish press representatives. A. Svinhufvud, chief of the Stockholm fire department, as well as representatives for the Ericsson company with Prof. H. Pleijel of the Royal Institute of Technology and president of the board of directors, were also present. Mr. Ekman characterized installations of this kind in the following terms.

"One of the main requirements for a fire-fighting organization is the possibility of calling the fire department to the site of the fire with the least possible delay. In order to fill this requirement in the best possible manner, cities and larger communities are usually provided with an electric fire-alarm system, permitting any one to send in an alarm from an alarm box in the shortest possible time after the discovery of a fire.

But how often does it happen that a fire is discovered at the very outset? More often, it remains unnoticed for a long time and is not discovered until it has made considerable headway.

According to statistics, about two thirds of the fires in Sweden — amounting to a national loss of about thirty million crowns — have originated from *unknown causes*. As a rule, it has been in just such cases that the fire has gained such headway by the time the fire department has arrived on the spot that it has often been impossible to check its progress, even with the most modern and up-to-date equipment. It no doubt is quite evident that in many — not to say in most — cases, more can be accomplished with simple fire-fighting equipment at the very outbreak of a fire — thus saving much valuable property — than with much more expensive and elaborate apparatus after the fire has gained a strong foothold.

It is here that the automatic fire-alarm becomes an efficient substitute for man's watchfulness and, so-to-speak, constitutes the nervous system of a modern fire-fighting organization. The sending in of an alarm signal without any one's assistance and at the first danger of fire is assured at all times of the day and night, a maximum of speed being obtained.

By automatic fire-alarm is here meant a system of thermo-

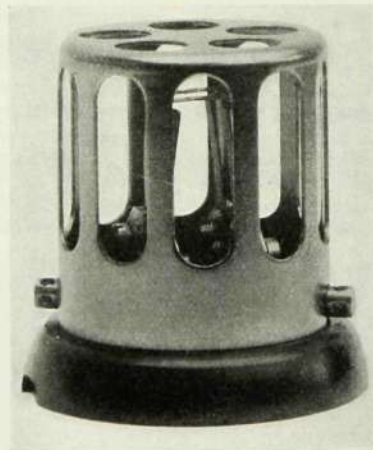
contacts — actuated by the heat from the fire itself — which close the circuits of signal gongs or sirens located within the establishment, or send out an alarm signal from an alarm box to the fire department.

The automatic fire-alarm system is based on electric circuits with thermo fire-alarm contacts distributed throughout the premises which are to be protected from fire, these circuits terminating in a local alarm board. An uncalled-for rise in the temperature causes one or more of the thermo-contacts to function, closing certain circuits through the relays and receiving instruments of the alarm board, thus producing an alarm signal. Among other things, the alarm board indicates the location of the contacts which have caused the closing of the circuit, this being obtained by grouping the contacts into definite separate alarm sections, each one with its own special designation on the alarm board.

Other systems along these same lines have appeared at various times, but none of them have been fully able to fill all the requirements which modern fire protection has a right to demand of such systems. Only the very best is good enough for efficient fire protection and an unequivocal requirement of a system of this kind should be the absolutely faultless functioning of every detail even under the most adverse and exacting conditions; also, it must not be subject to deterioration by the ravages of time.

The alarm board may well be called the heart of the system. It is this apparatus that must control not only the circuits, alarm contacts, source of current and an eventual main alarm box — for alarming the fire department — but also itself to the greatest possible extent. It contains a certain number

of relays — delicate little instruments, actuated by weak electric currents and with a number of spring groups with various contact combinations — and it is self-evident that the number of relays must not be greater than is absolutely necessary, at the same time as the apparatus shall be fully capable of giving a correct and efficient alarm signal. Also, the construction and design of these relays shall be the best imaginable and all the relays which function on the giving of an alarm signal shall be automatically controlled by an electric current, besides which the manner of combining the relays is of great importance.



R 834 Fig. 1. Ericsson's Thermo-contact for Automatic Fire-Alarm Systems.

The contacts which form a part of the alarm circuits must also be as simple and efficient as possible, consequently they should preferably be break contacts, i. e. contacts which are closed when the system is at rest, being automatically controlled by means of a control current and broken when an alarm signal is given. A contact that is broken when in normal position cannot be under permanent control and during the intervals that the system is at rest the contact surfaces can become oxidized or covered with dust and oil in sufficient quantities to make them non-conductive for the weak currents which are used.

The devices which restore the system to normal after an alarm signal or a line fault must be simple and reliable and the switching operations forcibly controlled so as to make a wrong manipulation impossible. After the restoring has taken place, the fault which has been responsible for the same shall be clearly and permanently indicated on the alarm board.

The automatic fire-alarm system here used and which is manufactured and marketed by Telefonaktiebolaget L. M. Ericsson, has been specially designed even as to the smallest detail with the enumerated requirements for reliability in constant view. The aim has been to obtain an apparatus which, without the serious complications which are so difficult to avoid in similar cases, will give an alarm signal as well as provide automatic control for and indicate the presence of various faults which may arise and which — as in other

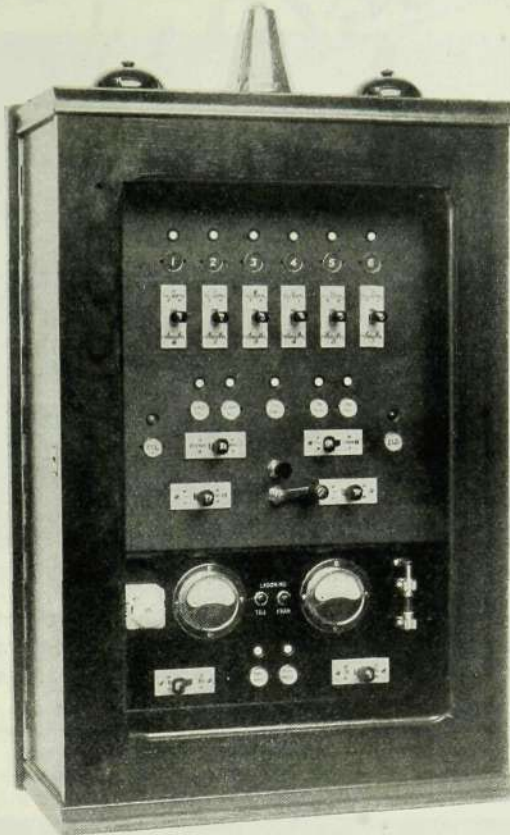
systems — can prevent the giving of an alarm signal at the crucial moment.

The entire system is always automatically controlled by means of a control current, so that faults of various kinds are indicated as soon as they arise.

This system provides an even greater degree of safety, in that it eliminates the results of the serious line faults, so that these latter cannot prevent the giving of an alarm signal even though they should arise at that very same instant. The moment at which the alarm — with its many current impulses — is given is very critical, especially for a widespread system, which quite naturally must withstand deleterious influences of various kinds as the years pass by.

The risk that line trouble of various kinds occur in a plant or installation must naturally increase as the plant becomes older. With this fact in mind one cannot but acknowledge the superiority of this system, in which the giving of an alarm signal is practically unaffected by any kind of trouble and which possesses a maximum of efficiency in operation."

After the above statement had been presented, the installation was tested by the heating of one of the thermo-contacts, the system functioning with the most perfect accuracy. Not more than two and one half minutes after the giving of the signal or long before the fire could have gained any headway, the fire department with all the necessary fire-fighting apparatus was on hand and ready for action.



R 833 Fig. 2. Alarm Board for Ericsson's Automatic Fire-Alarm System.

The New Toll Exchange in Naples.

The Italian Department of Communications has just placed an order with L. M. Ericsson for the delivery of a new and modern toll exchange for Naples. This transaction has been handled by the company's Italian subsidiary, Società "Ericsson" Italiana in Genoa.

The Italians differentiate between two categories of toll service. The longer toll lines between the cities in the different provinces, as well as the lines for international communications, are owned by the government, the service being handled by the government toll exchanges. The shorter and less important toll lines, on the other hand, are owned and operated by the concessionaires in the different zones.

The new government toll exchanges in Naples will be equipped for inter-traffic with the telephone net in the same city owned by the concessionaire in the 5th zone Società Esercizi Telefonici and comprising toll and rural exchanges as well as the local city net, now in course of construction according to the Ericsson automatic system.

The above-mentioned order includes fifteen toll boards with two positions each, a central order receiving department with

four positions for noting down call orders and one collecting position, one two-position information desk, one two-position board for the telegraphic preparation of toll calls, one supervisor's desk and a complete power plant.

In the preparation of the project for the new toll exchange, the most modern methods — suited to the existing traffic conditions — have been applied.

As has already been intimated, call orders are received by a central order department, where the order slips are made out and distributed to the different toll positions.

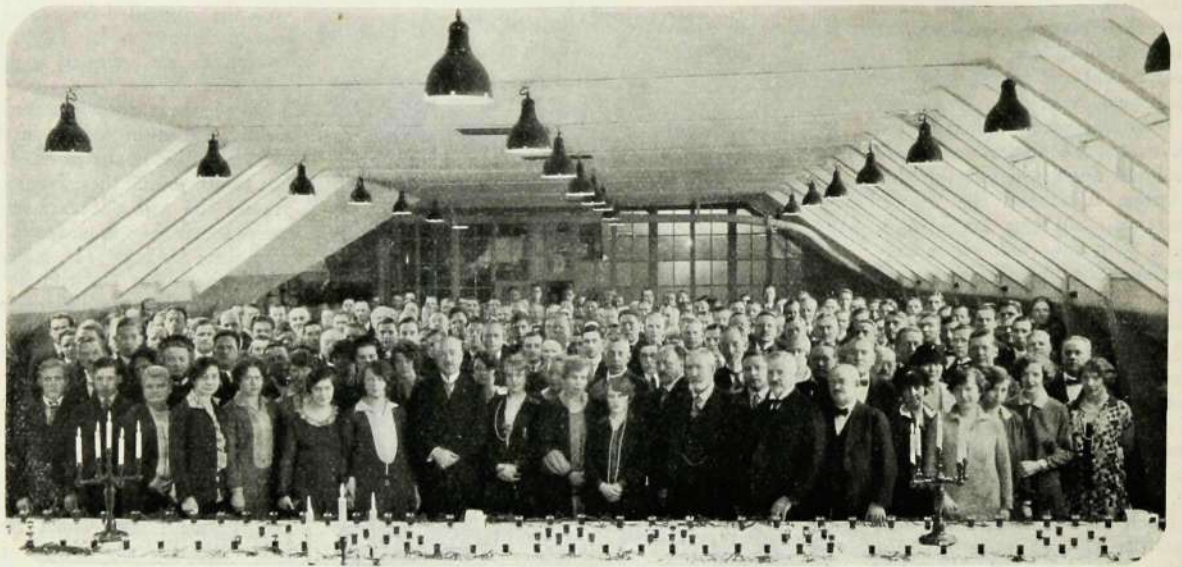
The toll positions are all alike in that both in and outgoing toll calls as well as transit calls can be handled at any one of them. Transit calls between the government toll exchanges are carried over a toll multiple. A special transit multiple, repeated in all the toll positions of both exchanges, will be provided for transit calls to lines connected to the toll connections of the concessionaire.

Toll calls to rural and local exchanges are handled over manual junction boards.

— From November 26th until December 4th 1927, **Aktiebolaget L. M. Ericsson in Finland** participated in the Helsingfors radio exhibition, their stand being shown in the illustration on page 4.

A 1 kilowatt sending station for wireless telegraphy and telephony, type AT 1000 VI made by the *Svenska Radioaktiebolaget*, may be seen in the centre of the picture. The

rear wall of the stand has been decorated with a number of radio head receivers of the Ericsson, Vienna, type RF 83 w. besides which the new, light Vienna model, type RF 100 w. weighing only 170 grams, the crystal receivers PF 101 and PF 102 and other accessories manufactured by Ericsson in Stockholm were included in the exhibition.



R 832

Staff, Department Heads and Office Force of Telefonaktiebolaget L. M. Ericsson in Stockholm at an Informal Gathering on New Year's Eve in one of the Factory Departments.



R 835

Stand of Aktiebolaget L. M. Ericsson in Finland at the Helsingfors Radio Exhibition, Nov. 26th to Dec. 4th, 1927.

Stockholm 1928. Kurt Lindberg, Boktryckeriaktiebolag.