AKTIEBOLAGET

TELEFONFABRIKEN

STOCKHOLM * SWEDEN

Introductory

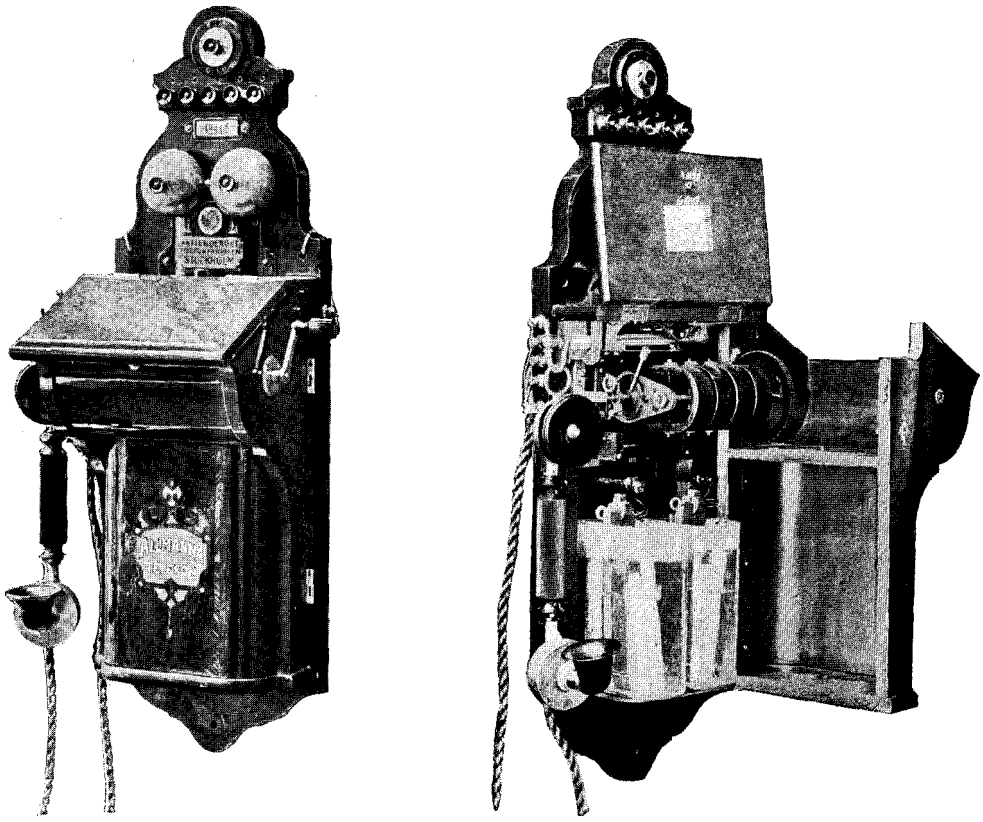
THE telephonic apparatus manufactured and now put into the market by »Aktiebolaget Telefonfabriken» are the fruits of experiences and experiments collected during the time elapsed, since the telephones made their first more important advances in Sweden. Their constructors have namely for long time had the privilege of close connection with the General Telephone Company in Stockholm and thereby found vast opportunities of studying the faults and merits of the apparatus hitherto used during this company's unique and rapid development in the telephonic line.

We have repaired thousands of old apparatus for the General Telephone Company and during the same time been constructing new patterns of telephone apparatus especially adapted for large exchanges and long distance service. The constantly increasing demand for new apparatus caused us to considerably enlarge our works after an activity of scarcely two years.

We consider it necessary that the apparatus are before anything else effective and economical. For this purpose we perform the apparatus with the outmost care and make the various parts easy accessible for occasional repairs or adjustments. Hereby the running expenses are diminished too, which is of the highest importance for the economy of every telephone corporation.

As we farther by widespread connections and large orders have succeded in obtaining the very best materials at reasonable prices, we hope to be able to deliver apparatus etc. at the highest state of perfection and to prices which in reasonableness may satisfy any demands.

The factory has now under work all the apparatus for the new exchange of the Allm. T. A. B. Stockholm, which is going to be the greatest ever built in the world.



N:r 1
Wall Telephone Instrument

IN due accordance to principles laid down above this instrument, of which a drawing is presented, has been constructed. The entire frame is made of solid valnut-wood whereas it was previously often made of alder, veneered with valnut. The veneer has shown itself to loosen in damp places and thus entirely spoil the appearence of the instrument and render expensive repairs necessary. Furthermore we make the entire wooden covering hinged, thus allowing an easy correction of faults inside the covering should any such occur.

The generator which to the accomodation of the purchaser can be provided with three or four magnets is in this instrument screwed on to the frame from the front, thus allowing repairs to be effected with more ease.

On the same purpose the combinationset now used to all types of instruments has been the object of considerable alternations, while it regarding strength and elegance is all that can be desired.

Hitherto a fault arising in the four-way cord of the combinationset has compelled the workman to do the adjustment at the workshop because of the way in which the terminals of the cord were fixed to contacts at different places inside the combination-set.

Now however by unscrewing a small lid at the back of the transmitter case, all four terminals are at once got at, thus making repairs on the spot possible.

As it has been proved that the former manner of connecting the transmitter to the handle, was mostly the ordinary cause of faults this connection is now made in one single piece. The sensitivness of the receiver has by the use of prime magnetic steel, arrived at such a state of

perfection that it can scarcely be surpassed, if such a thing can even he thought necessary.

The instrument is provided with a key for shortcircuiting the bell while ringing, and the secondary of the induction-coil while receiving a message. This prevent noises, made near the instrument, to be beard and makes the resistance less, which will be found an advantage on long lines. The key is only to he depressed while receiving and not so when speaking.

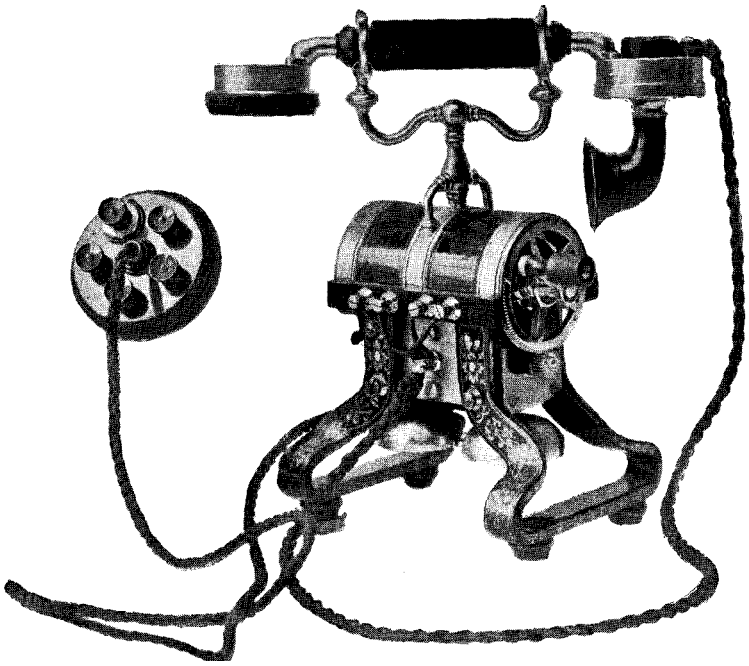
The space destined for the elements holds two of them; each 7 cm. in length, 10 cm. in breadth and 15 cm. i height.

Lighting protectors of our improved construction are provided for every instrument. The chief dimensions are:

Length: 0.7 metre.
Breadth: 0.3 metre.
Depth: 0.22 metre.
Weight: 7.5 ko.

N:r 2
Telephone

SIMILAR to the preceding one but having the combination-set laying in a cradle switch.
Weight = 7.5 ko.



N:r 10
Table telephone set

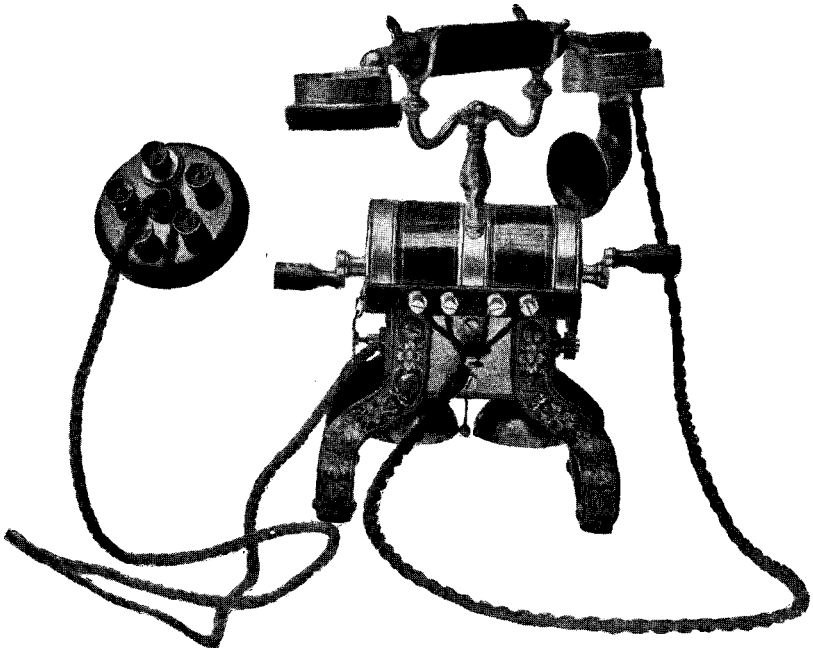
THE same principles, on which the elaboration of the wall-telephone has been based, have governed the construction of this instrument.

Here all the contacts are made easily accessible by unscrewing half the lid of the instrument.

The generator has been made stronger than those used in other table-sets so that it rings surely through a resistance of 20.000 ohms.

Special care has been bestowed on making the contacts as sure as possible.

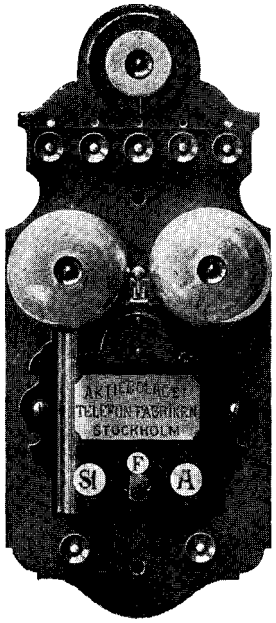
Weight = 4.5 ko.



N:r 11
Table telephone-set

SIMILAR to the preceding one but the induktor is provided with two handles thus making the instrument suited for writing-desks where two persons are seated opposite each other.

Weight = 4.5 ko.

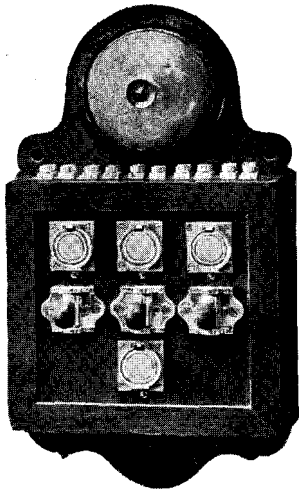


N:r 14
Junction-switch

THE intention with this switch is to connect with each other two telephone instruments of which one has a direct line to the exchange, if the same subscriber wants to have two telephones on the same line.

Special care has been taken to render the contact-arrangements as sure and solid as possible and experience has proved that they fully satisfy all possible demands.

The instrument is provided with a lighting-protector of our improved construction.
Weight = 1.70 ko.



N:r 15
Switch

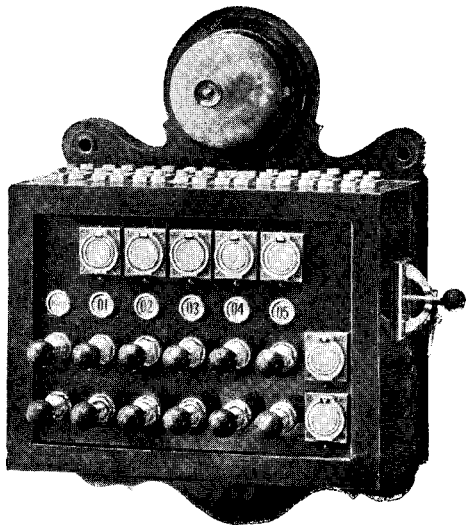
for three metallic circuits or single lines is used in connection with a telephone for terminal station.

The instrument is provided with nightbell.

Height: metre 0.26.

Width: metre 0.15.

Weight: ko. 1.95.



N:r 17
Switch

for 5 metallic circuits or single lines is used in connection with a telephone for terminal station.

With this switch two connections can be made at the same time.

The instrument is provided with nightbell.

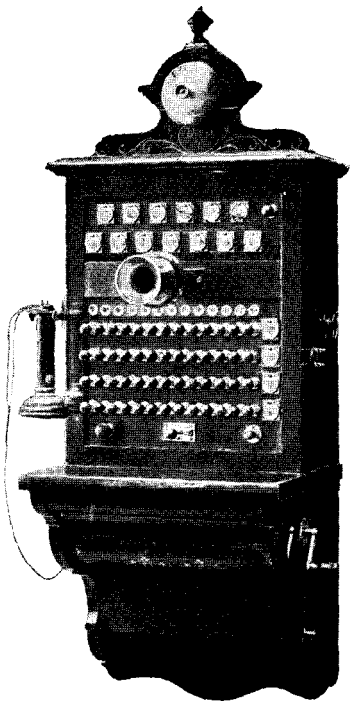
Height: metre 0.30.

Width: metre 0.22.

Weight: ko. 3.32.

Instruments of this kind are manufactured for 4 to 5 metallic circuits.

These switches are more advantageous than those with cords for the reason that plugs with cords frequently make troublesome repairs necessary.



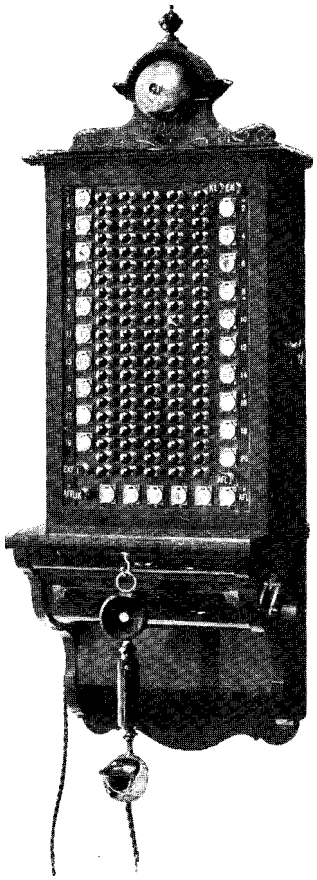
N:r 20
Wall Switch

without cords for 12 metallic circuits or single lines with transmitter, receiver, generator and nightbell.

Height: metre 0.87.
Width: metre 0.32.
Weight: ko. 21.5.

Instruments of this kind are manufactured for 4 up to 25 metallic circuits.

These switches are more advantageous than those with cords for the reason that plugs with cords frequently make troublesome repairs necessary.



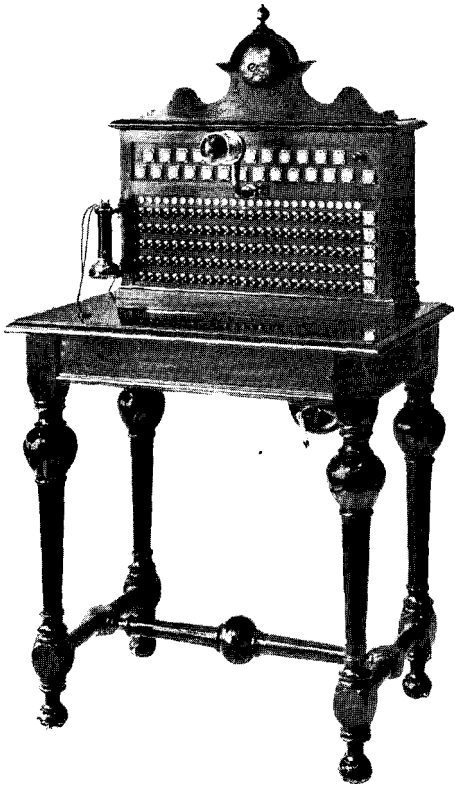
N:r 30
Wall Switch

without cords for 20 metallic circuits or single lines with combination set, generator and nightbell.

Height: metre 0.54.
Width: metre 0.32.
Weight: ko. 26.0.

Instruments of this kind are manufactured for 4 up to 25 metallic circuits.

These switches are more advantageous than those with cords for the reason that plugs with cords frequently make troublesome repairs necessary.



N:r 40

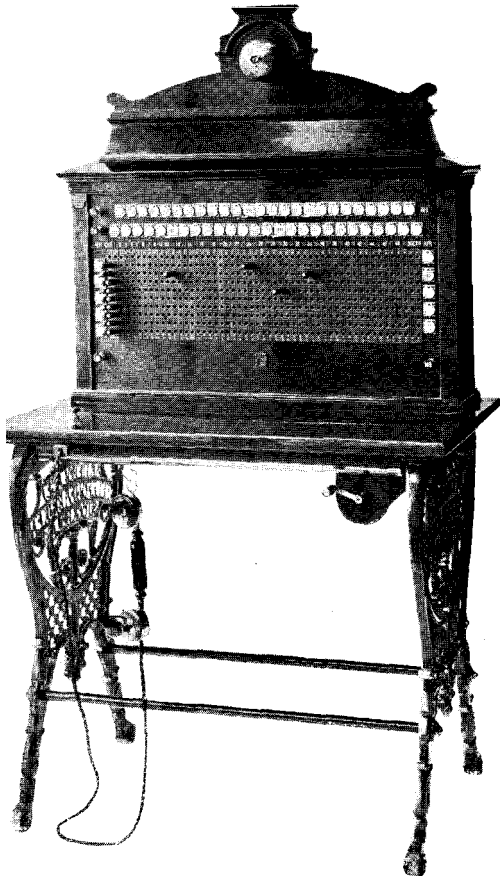
Switchboard

without cords for 25 metallic circuits or single lines with transmitter, receiver, generator and nightbell.

Height: metre 1.34.
Width: metre 0.70.
Weight: ko. 46.0.

Constructed on the same principles as the wall-switches.

These switches are more advantageous than those with cords for the reason that plugs with cords frequently make troublesome repairs necessary.



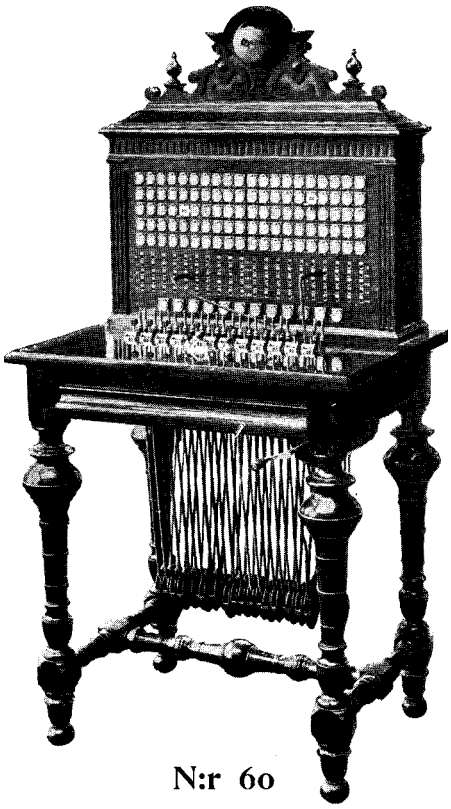
N:r 50
Switchboard

for 50 metallic circuits or single lines of a new solid construction with plugs without cords. It is provided with combination-set, generator and nightbell.

This apparatus combines in itself the advantages of both our switches without cords and with cords, that is to say, the solidness of the former and the demand for small space of the later.

Height: metre 1.50.
Width: metre 0.84
Weight: ko. 92.5.

Switchboards of this kind are manufactured for 20 up to 60 metallic circuits.



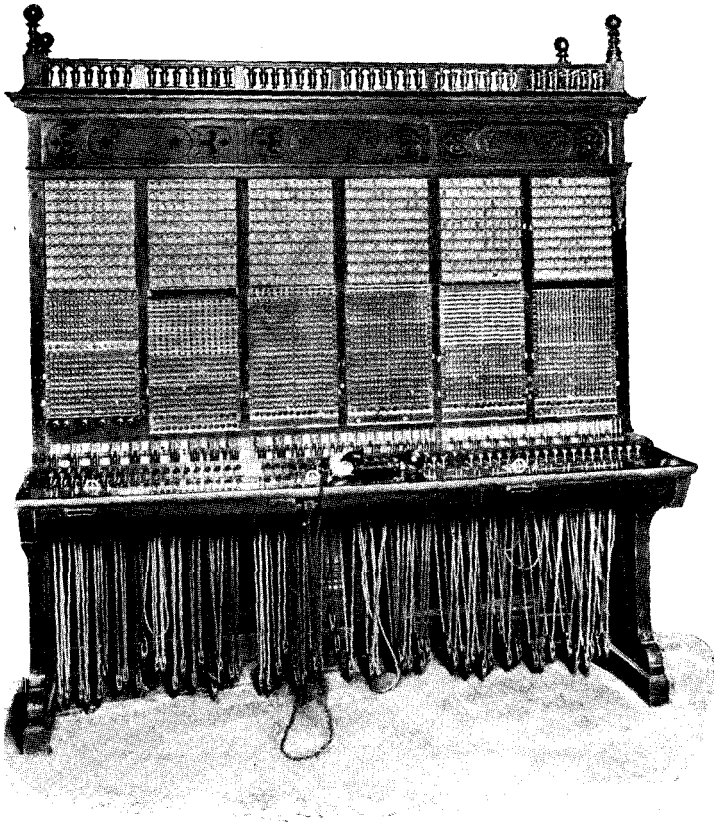
N:r 60

Switchboard

for 100 metallic circuits or single lines with cords, combination-set, generator and nightbell.

Height: metre 1.38.
Width : metre 0.99.
Weight: ko. 58.0.

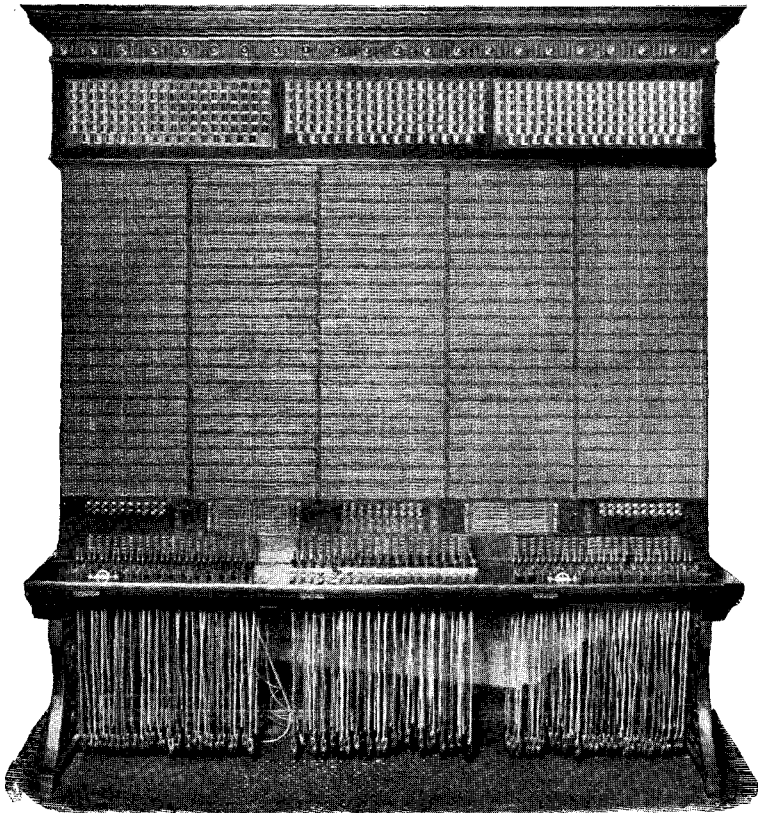
Instruments of this kind are manufactured for 25 up to 100 metallic circuits.



N:r 65
Switchboard

for 600 metallic circuits or single lines with plugs and cords.
Height: metre 1.95.
Width: metre 1.78.
Depth: metre 0.83.

Switchboards of this kind are manufactured for 100 up to 600 lines.



N:r 70
Multiple switchboards
for 300 subscribers with a capacity of 20.000 multiple jacks and with automatic restoring indicators.

Height: metre 2.300.
Width: metre 1.945.
Depth: metre 0.810.

Multiple-switchboards call be delivered for exchanges of every capacity up to 20.000.

N:r 8o
Protector against high tension currents

IN consequence of the enormous importance that high tension currents have vindicated in large communities, safety arrangements to prevent easely occuring but regarding repairs most expensive accidents caused by contacts between high tension and telephone wires are indespensible. The protector pictured above, intended to be connected to a lighting protector of our construction, consists of two parts. One part becomes active as soon as the strength of the current reaches a point (0.13 amp.) at which it may be dangerous to the fine coils at the exchange. The current passes through a coil by the heating of which a soldered contact becomes broken and the circuit opened.

The other part protects against currents of higher tension than what is generally used for lighting purposes and consists of a long wire fuse embedded in asbestos.

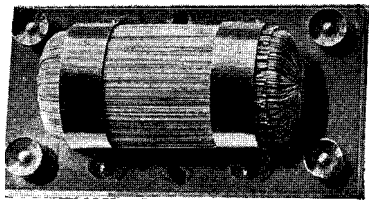
Such a tension causes a short-circuit to the earth through the lighting protector whereby the current at once becomes so strong that the fuse vaporizes.

Any arc can not arise in these protectors.

The ohms resistance of the coil is only 30 ohm, its inductive resistance scarsely anything.

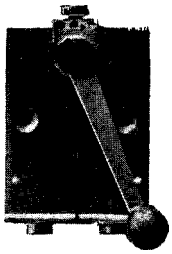
The apparatus may be adapted just as well for exchanges as for subscribers station.

Weight = 3o gr.

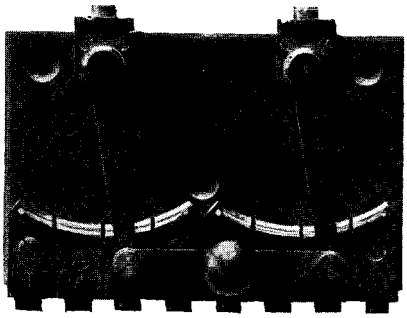


N:r 85
Translators

TRANSLATORS are used when passing from single line to metallic circuit. by the use of four similar translators, four single lines between two stations are able to serve as three independent metallic circuits.



N:r 90



N:r 93

N:r 91

Switches.

N:r 9o

THREE-point switch.

N:r 91

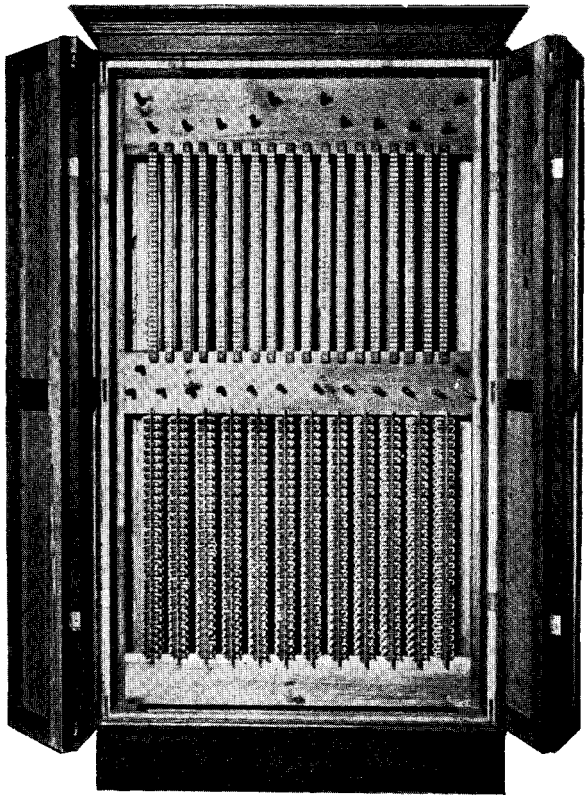
DOUBLE; three-point ditto.

N:r 92

FOUR-point ditto.

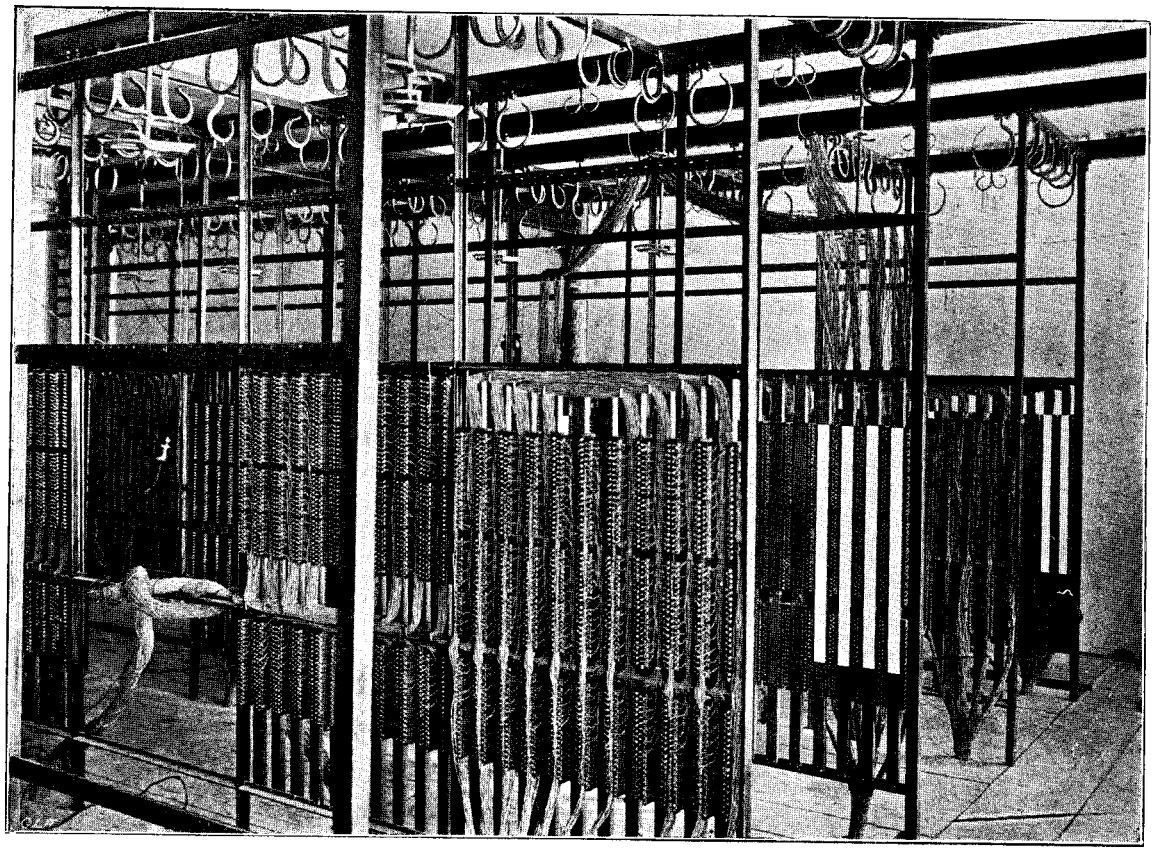
N:r 93

DOUBLE five-point ditto.



N:r 100
Testboard

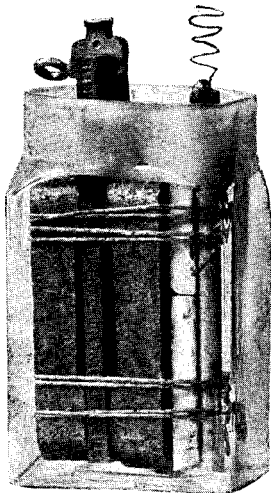
IT is always necessary in every exchange to have a testboard where any outside number can be connected with any number in the exchange. The testboard pictured above has a capacity of 360 metallic circuits. It is provided with safetypieces of our construction (N:o 80) and lighting-protectors.



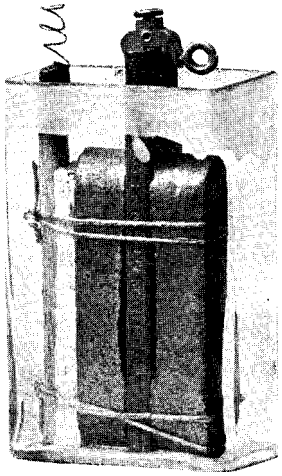
Testboards

for »Stockholms allmänna Telefonaktiebolag» with a capacity of 30.000 metallic circuits.

The testboards are provided with protecting arrangements against: 1:0 high tension current (lightning). 2:0 strong current (electric railway current). 3:0 lower tension current (lighting current).



N:r 110



N:r 111

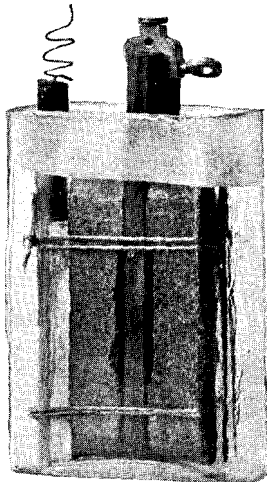
N:r 110

Large Leclanché cell

120 grams of sal-ammoniac should be used.
Weight - 1.44 ko.
Dimensions: 150X9OX90 cm.

N:r 111

SMALLER size. 90 grams of sal-ammoniac should be used.
Weight = 1.15 ko.
Dimensions: 150X90X70 cm.



N:r 112

SMALLFST size. 6o grams of sal-ammoniac should be used.
Weight = 1.00 ko.
Dimensions: 145X95X45 cm
The tension of all the cells is 1.5 volt.