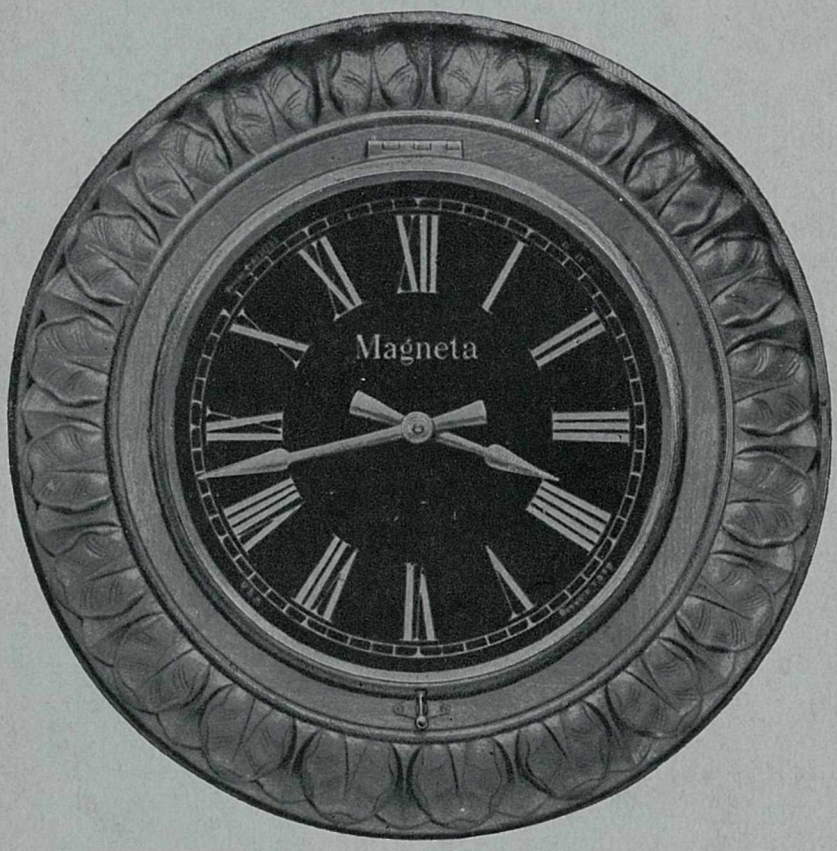
BRANCHES:

ZURICH: 11-13 Plattenstrasse
PARIS: 110 Rue Reaumur
BERLIN: 20 Kurfürstenstrasse
VIENNA: 58 Burggasse VII.

LONDON: Winchester House
Old Broad Street
GLASGOW:
65 West Regent Street



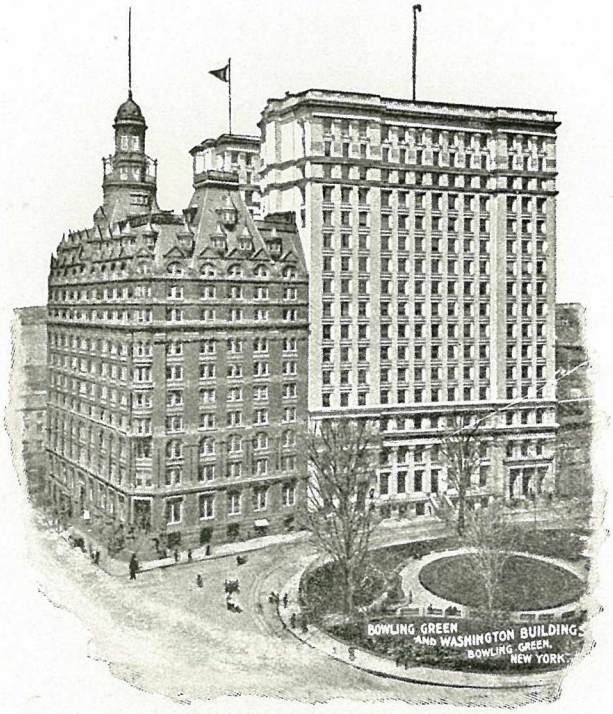
THE MAGNETA COMPANY

INCORPORATED

ELECTRIC CLOCK SYSTEMS
WITHOUT BATTERIES OR CONTACTS

11 BROADWAY **NEW-YORK** 11 BROADWAY

Cable Address: HOMAGNETA, NEW YORK, A B C Code 5th Edition used



BOWLING GREEN BUILDING, NEW YORK
HAS A "MAGNETA" CLOCK SYSTEM

THE MAGNETA COMPANY

11 BROADWAY, **NEW YORK**

BROOKLYN DAILY EAGLE, BROOKLYN, N. Y.

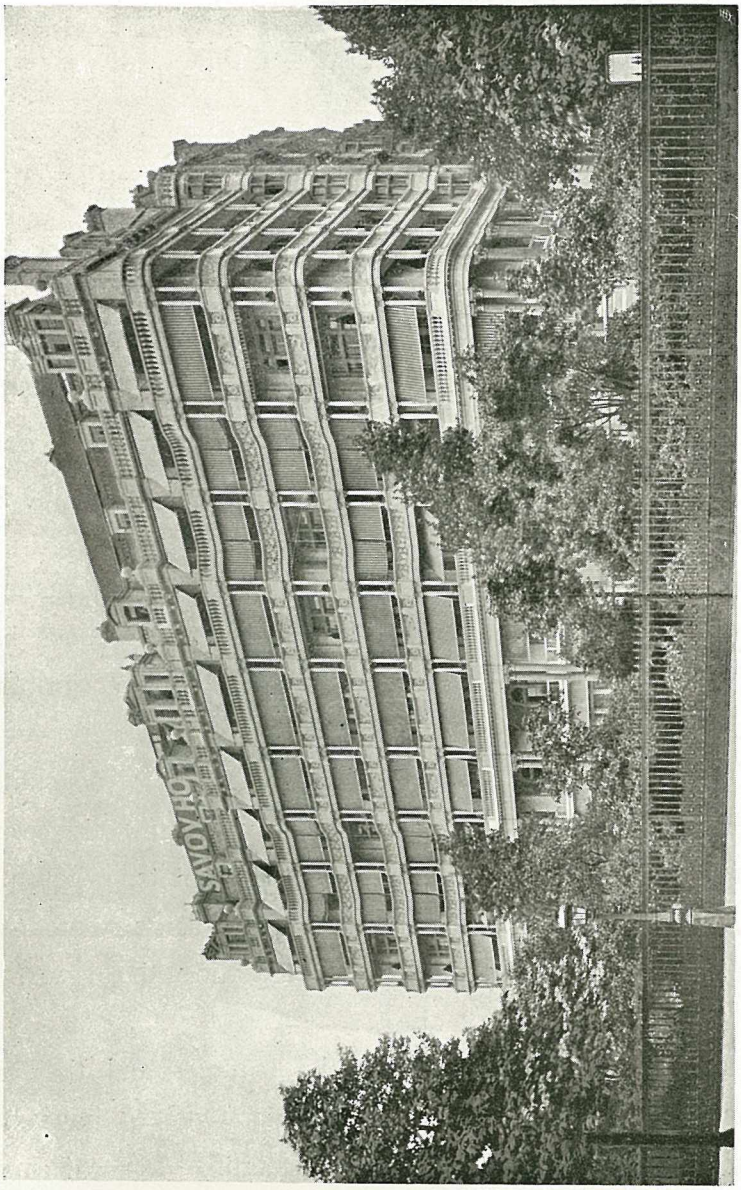
HAS A "MAGNETA" CLOCK SYSTEM.

INTRODUCTION

ELECTRIC ENERGY, from its easy application, and from its affording the means of actuating with absolute precision and certainty any number of distant and widely distributed indicators controlled from a central point, has long been acknowledged as an ideal principle to apply to the problem of providing uniform time systems for large buildings, as well as for entire towns and districts.

From time to time many attempts have been made to devise a thoroughly practical system, and some of these have met with a certain degree of success. The broad principle or method common to all these systems is generally known, even by persons having no special knowledge of the subject, and consists in the use of a battery for generating the necessary electric current, and also contact points, where the current is alternately applied and interrupted, as a means of producing intermittent impulses for actuating the system of distant dials or secondary clocks.

However, the **uncertainty of the batteries** and the rapid **destruction and oxidization of the contact points,** have been the **cause of continual trouble,** necessitating **frequent inspection,** entailing **skilled attendance** at a **considerable annual expenditure.**



THE **SAVOY HOTEL,** LONDON—HAS A "MAGNETA" CLOCK SYSTEM.

THE MAGNETA COMPANY'S

SYSTEM OF

Electric Clocks Without Batteries or Contacts

The invention forming the basis of this system consists, as is frequently the case with important developments, in the application of a very simple principle. It may almost be assumed as general knowledge, that the generation of electric current for lighting, motive power and industrial purposes generally is effected by induction, whereby a closed coil is brought into the sphere of a magnetic field (the respective position of the two being properly arranged and disposed), this, the now historic discovery of Faraday, **is the basis of all dynamo electric generators.** The **fundamental quality of this method** of **producing electric current** is its **certainty;** whenever a closed coil is suddenly brought into or withdrawn from the influence of a magnetic field, then a current of definite strength must always result. This certainty of action has been applied by the Magneta Co. to electric clock systems, and has taken practical shape in the following manner. The clock which is destined to be the **controller** or **master clock** of the system, is provided with a **magnetic inductor** of special form, consisting of an iron core placed within a fixed coil, and so arranged with respect to a permanent magnet that the core becomes alternately magnetized and de-magnetized by a semi-rotation; **once every minute,** the **master clock or**

controller actuates this inductor, thus **generating** a momentary **current,** which passes into the circuit of the **secondary clocks,** thus giving them an impulse, which takes place synchronously

THE **HOTEL ST. REGIS,** NEW YORK
HAS A "MAGNETA" CLOCK SYSTEM.

with the movement of the inductor. The wires from the inductor are led away without interruption or break to the circuit of the system with which the circuit of the inductor is permanently joined.

It is claimed for the Magneta Company's apparatus that it provides an absolutely trustworthy and efficient system, and this claim has been more than substantiated by the faultless working of both the large and small installations which the Company has erected. This is further borne out by the fact that although a short time has elapsed since the Company began to exploit its system, it has erected a large number of leading installations.

The advantages of the system may be summarized as follows:

Batteries and Contacts of any form entirely superseded, therefore ***nothing to renew.***

Saving *of the annual* ***expenditure*** *needed for the maintenance and repair of ordinary clocks.*

No supervision, *maintenance or attention of any kind, it being merely necessary to wind the master clock in the usual way, and the entire system is then self-acting* (*large Systems we can also build entirely automatic with a Self-Winding Master Clock*).

Highest time-keeping qualities, *secured by the extreme simplicity of construction.*

No *incidental or working* ***expense*** *of any kind.*

Low cost *of installing the system.*

However large the number of dials, or however widely separated in a building or system, ***they all indicate precisely the same time.***

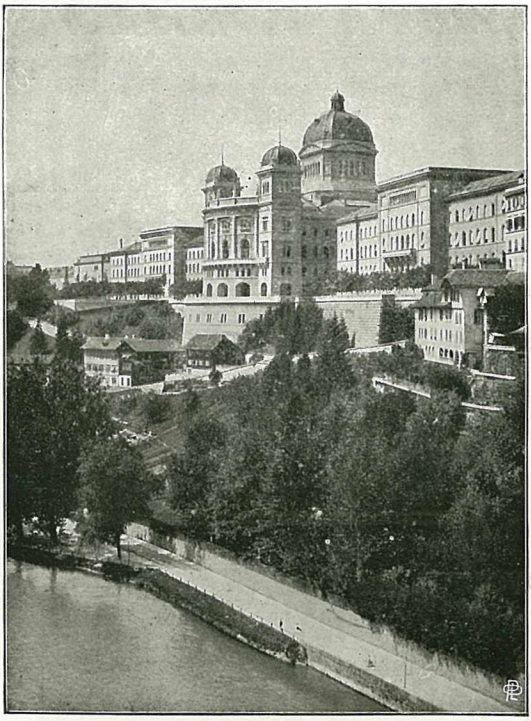
In large buildings provided with the old system of clocks, much inconvenience is caused by the daily or weekly winding and setting and also occasional oiling, necessitating usually the carrying of steps or small ladders for this

purpose; with the Company's system these inconveniences disappear.

The Company enters into a three years' guarantee of every installation erected.

These clocks can be placed in workshops where there is much dust, and also in damp places or in positions where they will be exposed to the weather or great changes of temperature.

Installations of electric clocks are particularly useful for towns and smaller communities, factories, post offices, hotels, schools, railroad depots, office buildings, private residences, clubs, banks, hospitals, theatres, etc. It is a well known fact that in large buildings considerable sums are expended annually for the adjustment, maintenance and repair of their ordinary clocks; all these expenses are avoided when the Company's system is used.



FEDERAL PALACE, BERNE
HAS A "MAGNETA" CLOCK SYSTEM

LIST

GIVING PARTICULARS OF THE VARIOUS TYPES, AND OTHER DETAILED INFORMATION.

ALL TYPES OF **MASTER CLOCKS,**
PROGRAM CLOCKS,
SECONDARY CLOCKS, ALARM INDICATORS

ALSO REGULATING APPARATUS FOR TOWER AND TURRET CLOCKS.

MASTER CLOCKS:

I. TO BE WOUND UP DAILY

(working period 36 to 50 hours.)

Type *a*.	Capable of driving **1** to **8** units.*	Comprising the precision regulator with weights and pendulum (beating seconds), in oak or walnut case.
Type *b*.	Capable of driving **1** to **16** units.*	
Type *c*.	Capable of driving **1** to **32** units.*	
Type *d*.	Capable of driving **1** to **45** units.*	
Type *e*.	Capable of driving **1** to **75** units.*	
Type *f*.	Capable of driving **1** to **100** units.*	
Type *g*.	Capable of driving **1** to **200** units.*	
Type *h*.	Capable of driving **1** to **300** units.*	
Type *i*.	Capable of driving **1** to **500** units.*	

* 1 unit equal to a secondary clock of 8—12 inches diameter of dial.

II. TO BE WOUND UP WEEKLY

(working period 8 days.)

Type *A*. Comprising the precision regulator with weights and pendulum (beating seconds), in oak or walnut case, capable of driving 1 to 16 units.

III. SELF-WINDING MASTER CLOCKS

Type *f*.
Type *g*.
Type *h*.
Type *i*.

These Clocks can be equipped with a SELF-WINDING ARRANGEMENT, making the system entirely automatic.

IV. PROGRAM CLOCKS

For ringing any system of Time Signals, for changing classes, opening and closing periods, starting and stopping work, etc.

SECONDARY CLOCKS.

I. Comprising electric clock movement, **oak or alder wood circular case,** with white dial, black aluminum hands and stout glass front:

8	inch	diameter of dial	(equal to 1	unit*)
10	"	"	" 1	"
12	"	"	" 1	"
16	"	"	" 3	"
20	"	"	" 3	"
24	"	"	" 8	"
28	"	"	" 8	"

Prices will be quoted on application, also for smaller and larger dimensions

* 1 unit equal to a secondary clock of 8—12 inches diameter of dial.

II. Comprising electric clock movement, **circular metal case,** white dial, black aluminum hands and water-tight glass front (these clocks are specially adapted for damp premises and outdoor use):

8 inch	diameter	of dial	(equal to 1 unit)
10 "	"	"	1 "
12 "	"	"	1 "
16 "	"	"	3 "
20 "	"	"	3 "
24 "	"	"	8 "
28 "	"	"	8 "
32 "	"	"	8 "
36 "	"	"	8 "
40 "	"	"	20 "
48 "	"	"	20 "
60 "	"	"	30 "
70 "	"	"	40 "
80 "	"	"	40 "

Prices will be quoted on application, also for smaller and larger dimensions.

III. TRANSPARENT DIALS illuminated at night by electric light.

IV. DIALS in carved wood or fancy frames.

REGULATING APPARATUS FOR TOWER CLOCKS.

This apparatus, which can be attached to existing Tower and Turret Clocks without taking them to pieces, allows the automatic regulation of the tower clock with the precision master clock, to which it is connected by wires.

What well known TECHNICAL AUTHORITIES write about the "MAGNETA" System.

ENGLAND.

Sir WILLIAM H. PREECE, *K. C. B., F. R. S.,* **London.**

" . . . . The inconveniences of battery systems are that the batteries wear out and the contact points corrode (oxidize). In the **"Magneta"** System both are eliminated. It is the **most economical** and **reliable** system; there being nothing to renew. I have a very high opinion of the practical merits of this system.— — —"

BELGIUM.

Mr. EM. PIERARD, *Professor of Applied Electricity,* **University of Brussels.**

" . . . . The long experience we have had with them enables us to confirm that they **give all** that is **desired for a perfect working clock system,** and that they will continue to do so for many years, without the slightest supervision — — —."

GERMANY.

Prof. Dr. VOLLER, *Pres. of the State Laboratory,* **Hamburg.**

" . . . . In the invention of the Magneta Clocks, we have a system which, according to my views, is capable of eliminating the many inconveniences of producing and transmitting current, as heretofore done in clock systems; at the same time, **it has made possible** in the **most simple way, sure** and **inexpensive operation of large** and **small plants.**

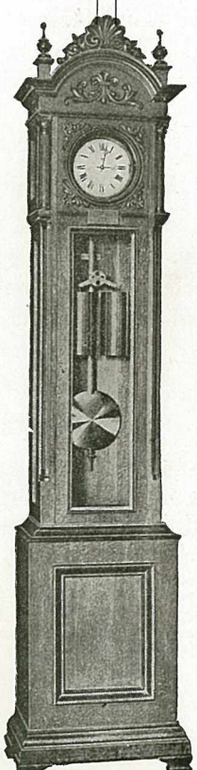
I can also state that, according to my conviction, the "Magneta" System shows such an **immense progress,** that the electrical operation of large plants in the future will have a much larger field, than heretofore has been possible, owing to the defects in the systems in use — — —"

SWITZERLAND.

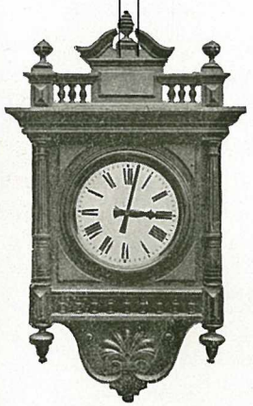
Mr. H. F. WEBER, *Professor of Applied Electricity,* **Technical University, Zurich,** has expressed himself in similar terms.

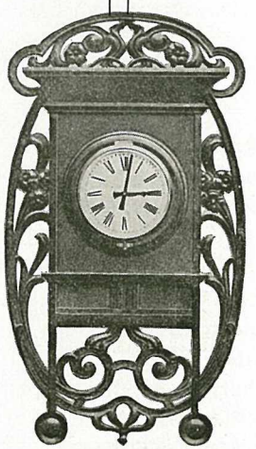
FRANCE.

Prof. E. HOSPITALIER, *President of the Internat. Society of Electrical Engineers,* **Paris,** has expressed himself in similar terms.

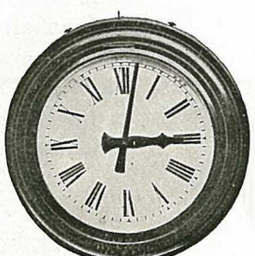


MASTER CLOCK





THE illustration shows in diagram form a number of Secondary Clocks, with a Master Clock which may be of diverse design, shape and size, distributed through the various rooms or departments of a large building, house, or other place. They are connected by a fine wire circuit as shown, which circuit ends in the Master Clock, which may be placed in the entrance or hall. The Master Clock actuates all the Secondary Clocks throughout the whole system, which neither require any winding, setting, repairing or oiling.



LIST OF
SOME RECENT INSTALLATIONS

UNITED STATES:

Hotel St. Regis, New York City.
Empire Hotel, New York City.
Gorham Manufacturing Co.,
New York City.
Henry Goeltz, New York City.
Bowling Green Offices, New York City.
Trinity Building, New York City.
Barclay Building, New York City.
Brooklyn Daily Eagle, Brooklyn, N. Y.
Ed. Bueb, New York City.
In course of construction:
Hotel Knickerbocker, New York.
New Naval Academy, Annapolis.

ENGLAND:

Complete Installation of
The City of Glasgow.
Royal Mint, London.
Royal Admiralty, London.
Municipal Buildings, Woolwich.
St. Thomas's Hospital, London.
Seacroft Hospital, Leeds.
Savoy Hotel, London.
The "Daily Mirror," London.
The London Press Exchange, London.
The "Daily Mail," London.
The "Evening News," London.
The "Weekly Despatch," London
etc., etc.

GERMANY:

Complete Installation of
The City of Cologne.
" " " **Magdeburg.**
" " " **Dresden.**
All Railroad Depots in
The City of Berlin.
Imperial Post & Telegraph Buildings,
Frankfurt o. M.
Court Buildings, Hamburg.
Ministry of the Interior, Dresden.
Hotel Stephanie, Baden-Baden.
Palace Hotel, Frankfurt o. M.
Frankfurter Hof, Frankfurt o. M.
Bank of Handel & Industrie, Berlin.
Bergisch-Markische Bank, Elberfeld.
etc., etc.

FRANCE:

Complete Installation of
The City of Aix-les-Bains.
" " " **Mentone.**
Ecole d'Architecture, Paris.
Rothschild Hospital, Paris.
Vanderbilt Hospital, Paris.
Hotel Montfleury, Cannes
Hotel des Colonies, Mentone.
Grand Hotel de Londres, Paris.
Grand Hotel National, Mentone.
Hotel de Russie, Monte Carlo.
Grand Hotel d'Jena, Paris.
Cosmopolitan Hotel, Nice.
etc., etc.

SWITZERLAND:

Complete Installation of:

The City of Aarau.
" " " **Luzerne.**
" " " **Lugano.**
" " " **Baden.**

Korso Theatre, Zurich.
Anatomical Building, Zurich.
Children's Hospital, Zurich.
Union Hotel, Luzerne.
The "Daily News," Zurich.
University, Berne.
Federal Palace, Berne.
Automobile Works of Fischer & Co., Zurich.
etc., etc.

AUSTRIA:

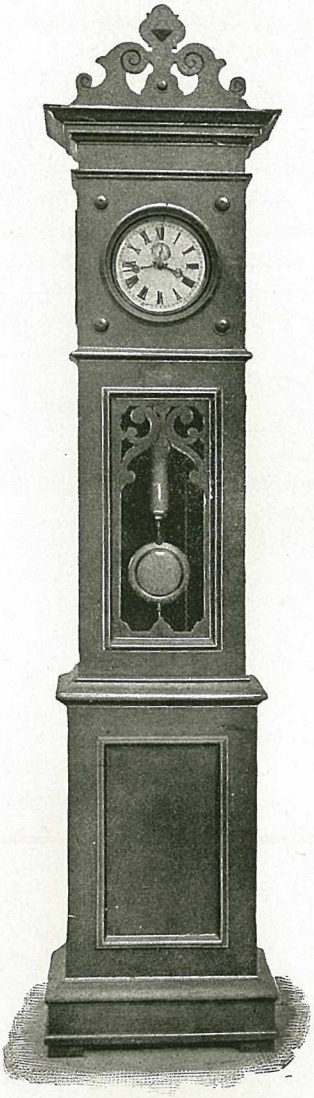
Complete Instal'ation of

The City of Prague.
Imperial Telegraph Offices, Vienna.
Austrian Eng. & Architects' Club.
Railroad Depot Troppau of the Austrian Railroad.
New Railroad Depot in Brünn (State Railroad).
Depot Lundenburg of the Emperor Ferdinand Railroad.
Palace Hotel, Vienna.
Austrian Accident Ins. Company, Vienna.
Electrical Works of G. H. Eitel, Vienna.
Silk Mills of Herzfeld & Firtel, Hradsko (Bohemia.)
etc., etc.

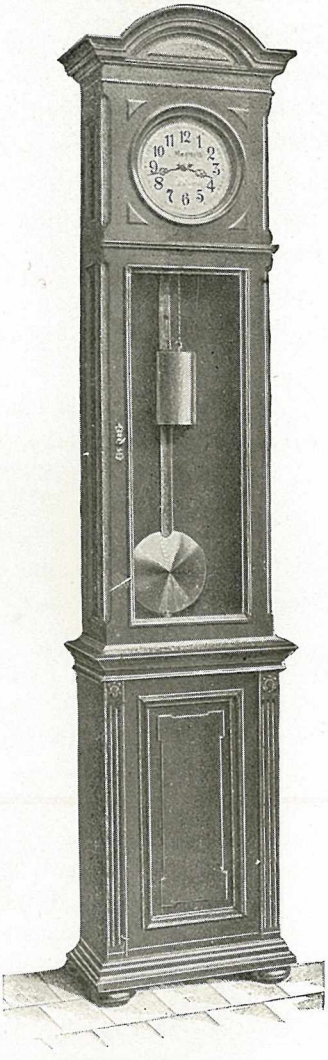
THESE ARE A FEW OF THE MANY INSTALLATIONS MADE BY THE COMPANY

COMPLETE LIST MAILED ON REQUEST

MASTER CLOCKS

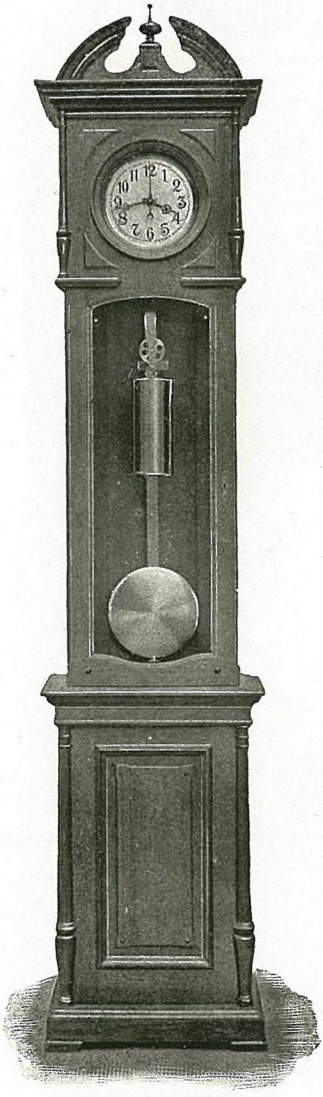


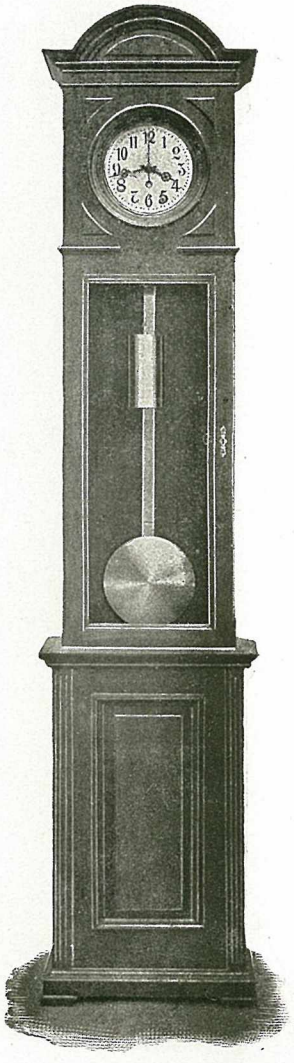
TYPE *a*
Capable of driving, 1—8 units.



TYPE *b*
Capable of driving, 1—16 units.

MASTER CLOCKS

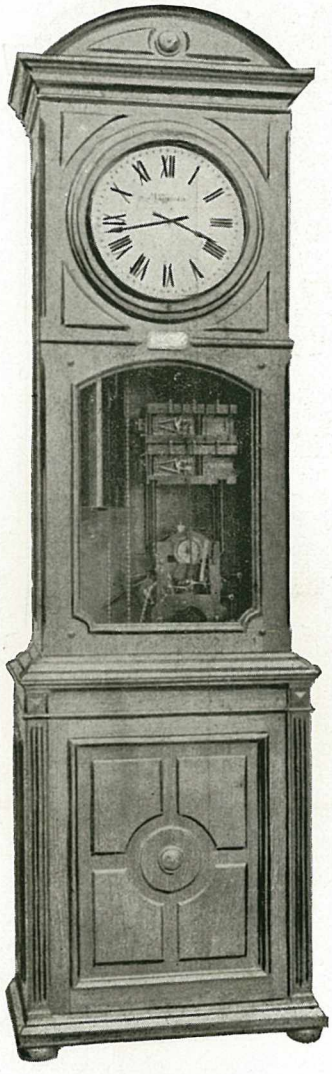




TYPE *C*

Capable of driving, 1—32 units.

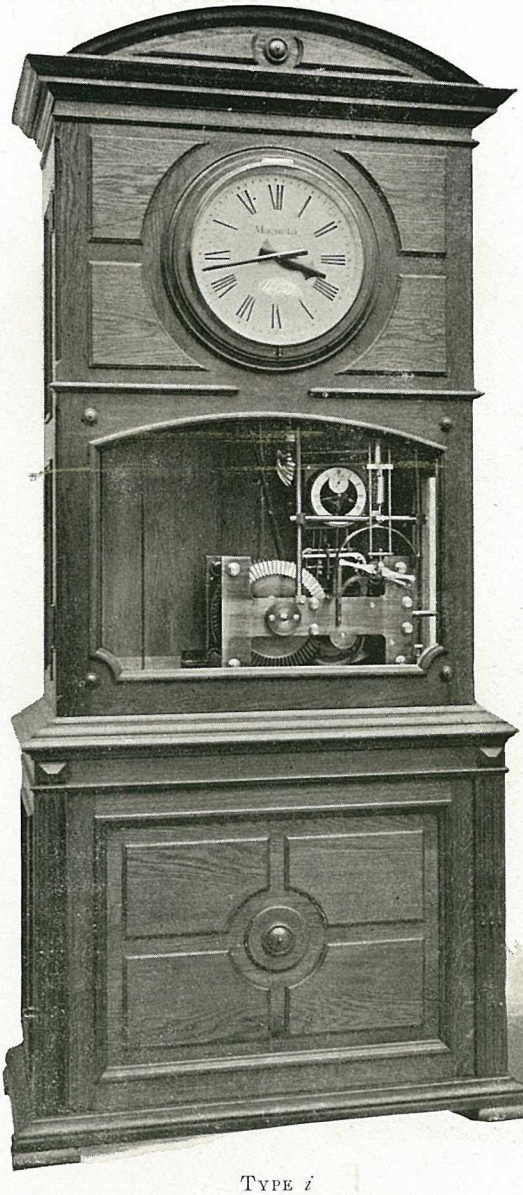
MASTER CLOCKS



TYPE *e*.	Capable of driving	75	units.*
TYPE *f*.	"	"	"	100	"
TYPE *g*.	"	"	"	200	"
TYPE *h*.	"	"	"	300	"

*1 unit equal to a Secondary Clock of 8–12 inches diameter of dial.

MASTER CLOCKS

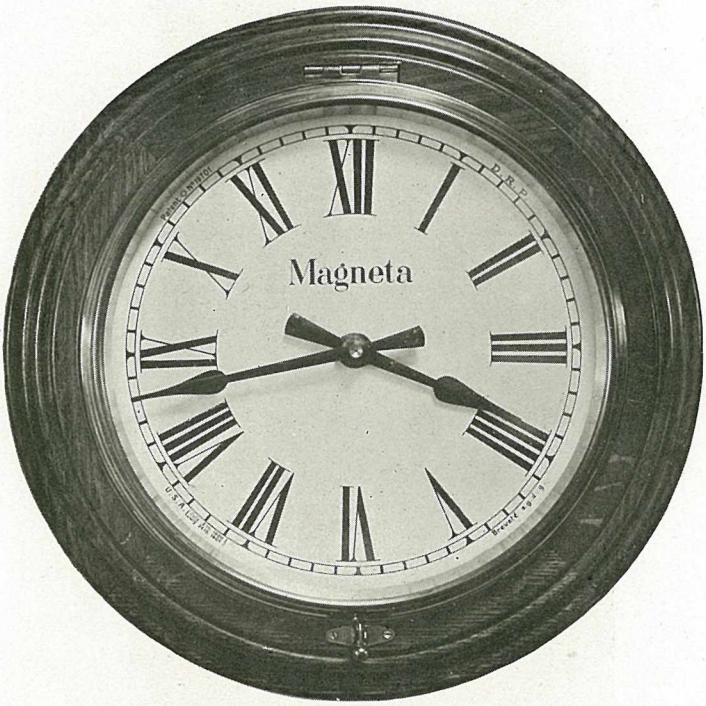


TYPE *i*

Capable of driving 500 units.

(1 unit equal to a secondary clock of 8–12 inches diameter of dial.)

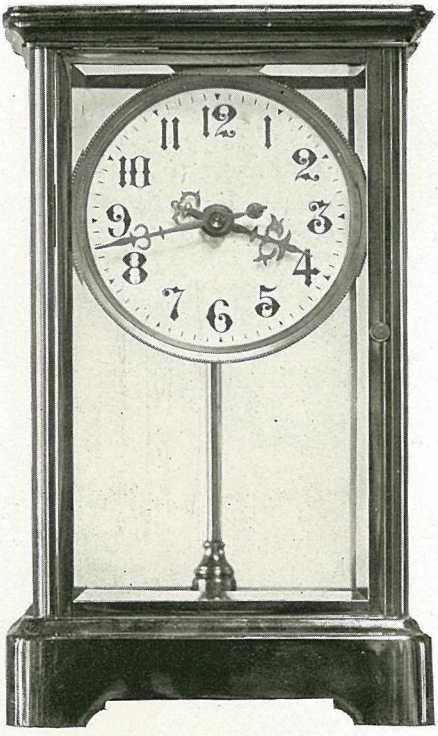
SOME SECONDARY CLOCKS



Standard Circular Wall Clock.

Wooden Case, 6 inches to 48 inches diameter of dial.
Metal Case, 8 inches to 8 feet diameter of dial.

SOME SECONDARY CLOCKS

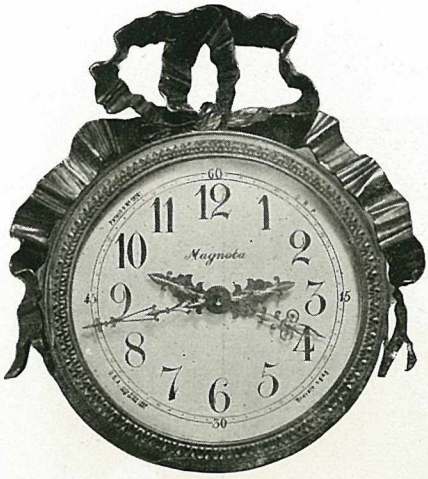


Standard Mantel Clock.

Polished Brass Case; 4 inches diameter of dial.

Sizes: 10¾ inches by 6⅜ inches; 9¾ inches by 6⅜ inches.

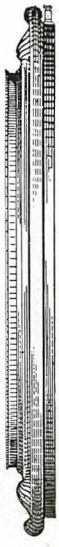
SOME SECONDARY CLOCKS



Chased Bronze Wall Clock.

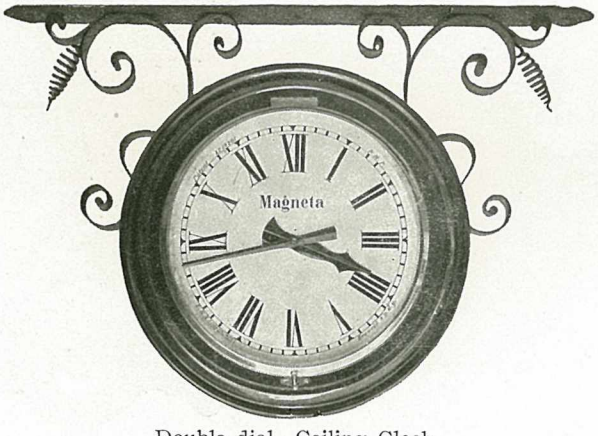
Bronze Mantel Clock.

SOME SECONDARY CLOCKS



Side view of carved oak frame clock.

Carved oak frame.



Double dial—Ceiling Clock.

SOME SECONDARY CLOCKS

Carved Walnut frame.

Fancy Walnut frame.

MAGNETA REGULATING APPARATUS

FOR CONTROLLING AND REGULATING TOWER AND TURRET CLOCKS