TONE CLOCKS FROM WOLVERHAMPTON STEAM LAUNDRY

PUL-SYN-ETIC ELECTRIC

Book 5.
Section 1.

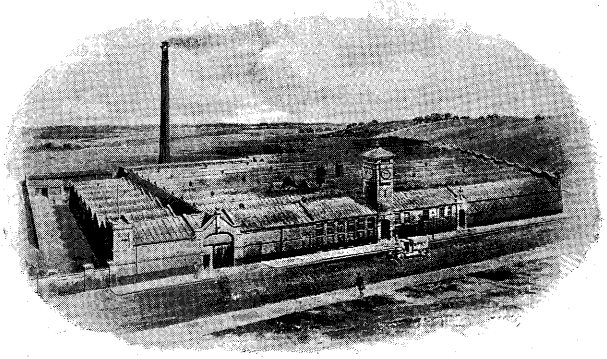
THE

"PUL-SYN-ETIC" System

OF

ELECTRIC IMPULSE CLOCKS and TIME DISCIPLINE APPARATUS.

FOR INDICATING UNIFORM and ACCURATE TIME IN OFFICE, INSTITUTE and INDUSTRY.



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PUL-SYN-ETIC ELECTRIC

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INDEX.

OTHER SECTIONS OF "BOOK 5."

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"PUL-SYN-ETIC" SYSTEM.

The "Home" Impulse Transmitter.

SPECIFICATION.

CASE Of designs illustrated, in sound well-seasoned wood, enamelled dark mahogany or walnut, highly finished and French polished. Full length front glazed panel forming door with strong hinges, lock and key.

MOVEMENT Formed of rigid cast-iron bedplate, with correctly adjusted electro-magnet, improved quick-break sparkless half-minute automatic adjusting impulse contact, with heavy hard gold-alloy surfaces. Inclined plane gravity impulse mechanism giving constant drive independent of battery strength and variation of circuit, hardened steel arbors working in hardened wrought-brass bearings. SECONDS PENDULUM with rod of "Si-ne-var" non-expanding nickel-steel alloy, fully compensated. Heavy mild-steel cylindrical bob and toothed rating nut, each tooth representing approximately one second per day adjustment. Platform for regulating weights. The complete movement capable of being regulated to keep time within three or four seconds per week.

ADVANCE An advance lever with cord is fitted to the movement for adjusting purposes, by which all impulse clocks in the circuit can be advanced one impulse every two seconds.

FITTINGS Substantial terminals and fixing plates for four fixing screws are provided.

DIMENSIONS Size overall 53-in. × 13-in. × 8-in.; weight, without time dial, 44 lbs. Fig. C37 slightly exceeds these dimensions and weight.

NOTE.

The three Transmitters shown opposite at **Fig. C6, C7 and C37** are identical except that the latter two have a time dial with its impulse movement fitted on the door of the cabinet. In these cases the mechanism of the Transmitter is fully visible on opening the door.

For positions where a time dial separate from the Transmitter is desired the Fig. C6 type may be used. The absence of the time dial and impulse movement allows a free vision of the Transmitter action through the glass panel and often allows the Transmitter to be fixed in positions where the tick of the half minute contact is unnoticed and where wall space is less valuable.

"PUL-SYN-ETIC" SYSTEM.

The "Home" Impulse Transmitter.

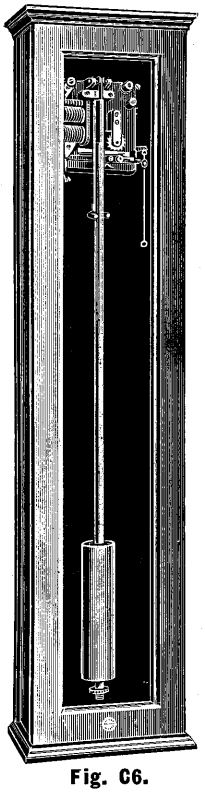


Fig. C6.

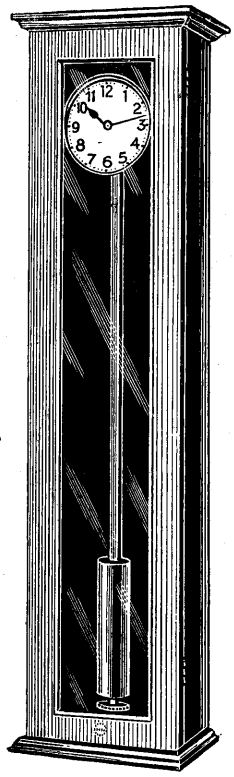


Fig. C7.

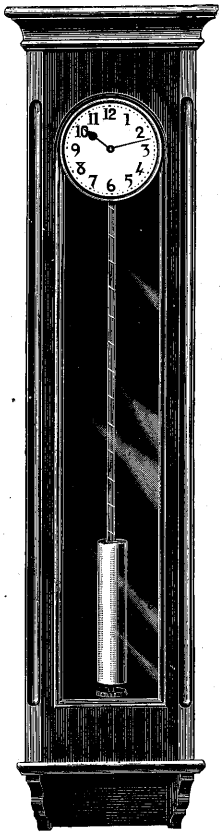


Fig. C37.

Fig. C6. TRANSMITTER. In enamelled polished wood case with glazed front panel, secured with substantial hinges and lock and key, giving access to movement and pendulum. Substantial fixing plates and alignment studs provided to enable case to be rigidly fixed in a vertical position. (E)

PRICE, each .. .. £15 - 0 - 0 **Code word .. .. zilik**

Fig. C7. TRANSMITTER. Generally as Fig. C6 above, but with 7-in. time dial. (E)

PRICE, each .. .. £18 - 10 - 0 **Code word .. .. zilje**

Fig. C37. TRANSMITTER. In ornamental solid hardwood highly-finished case with glazed front panel, secured with substantial hinges and lock and key, giving access to internal mechanism. Substantial fixing plates and alignment studs provided to enable case to be rigidly fixed in a vertical position. (E)

PRICE, without time dial £27 - 10 - 0 **Code word .. .. zillo**

PRICE, with time dial as illustrated above .. £31 - 0 - 0 **Code word .. .. zilny**

Special Cases. Where desired, special cases can be made to architect's designs, or to match existing furniture.

N.B.—Observatory Transmitters, etc., quoted for on application.—See Section 4.

"PUL-SYN-ETIC" SYSTEM.

Impulse Wall Clocks. For interior use.

On this and the following pages we illustrate a selection of impulse clocks for a variety of positions and situati ons.

These clocks when operated by any of the Transmitters shown on page 5, indicate uniform and accurate time throughout the system. Requiring no winding or periodical attention, they may be fixed in positions most easily discernible without regard to accessibility.

IMPULSE WALL CLOCK FOR INTERIOR USE.

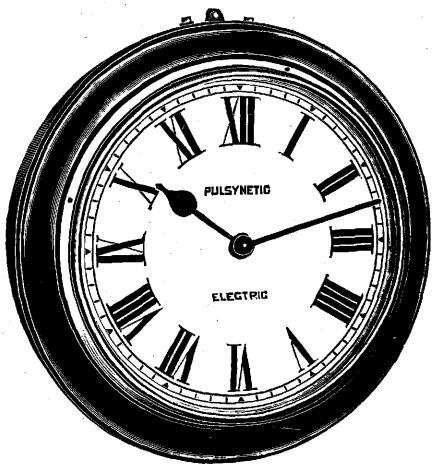


Fig. C10. IMPULSE WALL CLOCK.—Solid Hardwood Front.

Fig. C10. IMPULSE WALL CLOCK, in polished **wood case.** Airtight and dust proof. Strong glazed brass bezel and **enamelled metal face.** **"Pul-syn-etic"** patent simple locked standard pattern movement. Substantial terminals, available without opening case. Complete with suspension bracket.

Diam. of face	6-in.	9-in.	12-in.	16-in.	18-in. *	20-in.	24-in.	(E)
Diam. of Case (approx.)	9-in.	12-in.	15¼-in.	20½-in.	23½-in.	26¼-in.	30¼-in.	
PRICE, each	**£3-14**	**£3-16**	**£3-18**	**£7-5**	**£8-14**	**£10-4**	**£13-10**	
Code word	**zilol**	**zilum**	**zilyn**	**zimaj**	**zimek**	**zimil**	**zimja**	

*** This size is made to order only.**

N.B.—The above prices are for Standard type "quiet" clocks. If absolutely inaudible movements are required special prices will be quoted.

"PUL-SYN-ETIC" SYSTEM.

Impulse Wall Clocks. For interior use.

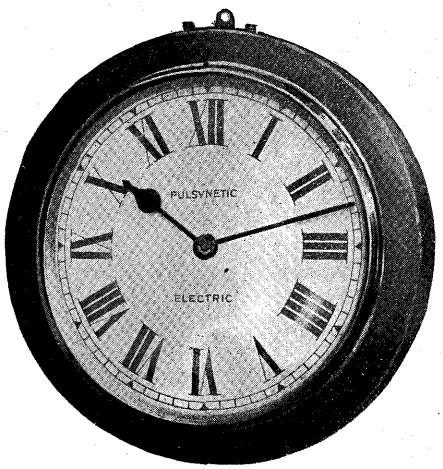


Fig. C15. IMPULSE WALL CLOCK. Spun-metal case.

FIG. C15. IMPULSE WALL CLOCK (for interior use) in black enamelled **spun-metal case,** airtight and dust proof. Strong glazed brass bezel and **enamelled metal face. "Pul-syn-etic"** Patent simple locked standard pattern movement. Substantial terminals, available without opening case. Complete with suspension bracket.

PRICE, each .. .. .. **£3 - 8** (E)

One size only. 12-in. diam. of face.

Code word .. .. .. **zimke**

FIG. C30. "DISCOID" IMPULSE WALL CLOCK (for interior use).

In the **"Discoid"** Clock the movement is contained in **metal case** with airtight cover, easily removable, so that the moving parts become accessible for investigation, while the external disc is of stamped steel with rolled edge, suitably enamelled, in dull black

Given a black disc with a white centre, the white is always accentuated. This fact is taken advantage of in this clock, where the **dial** not only **shows up with unusual clearness,** but is **easily read at a distance.**

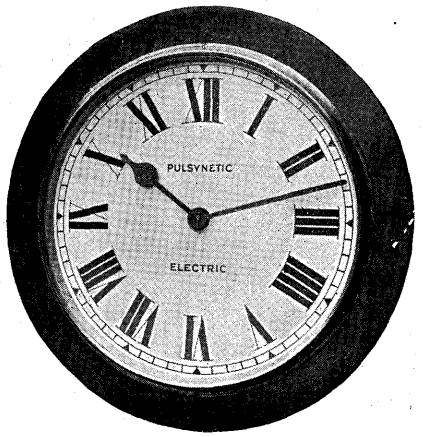


Fig. C30. "DISCOID" ALL-METAL CLOCK. Patented.

						(E)
Diam. of face	12-in.	18-in.	24-in.	36-in.	42-in.
Diameter of Case (approx.)..	15¼-in.	23½-in.	30-in.	42-in.	48-in.
PRICE, each	**£3 - 5**	**£5 - 14**	**£7 - 16**	**£19 - 10**	**£23 - 12**
Code word	**zimmo**	**zimpy**	**zimyp**	**zinak**	**zinel**

N.B.—The above prices are for Standard type "quiet" clocks. If absolutely inaudible movements are required special prices will be quoted.

"PUL-SYN-ETIC" SYSTEM.

Impulse Mantel Clocks.

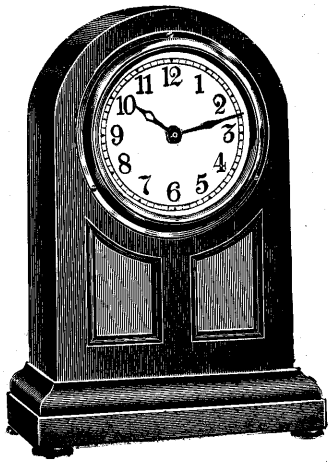


Fig. C21.

Impulse Mantel Clocks in ornamental hardwood and other cases. **"Pul-syn-etic"** impulse movements. Dials and bezels of various designs.

Absolutely inaudible movements can be fitted at extra cost.

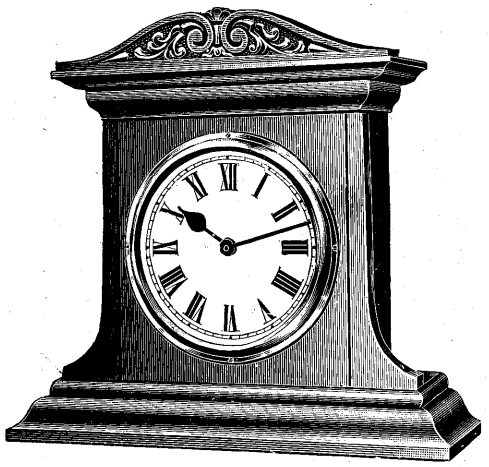


Fig C19.

FIG. C21. IMPULSE MANTEL CLOCK, polished **hardwood case,** 5-in. dial, highly-finished glazed bezel. (E)

PRICE, each .. .. **£5 - 15**
Code word .. .. **zinka**

FIG. C19. IMPULSE MANTEL CLOCK, polished **hardwood case,** 8-in. dial, highly-finished glazed bezel. (E)

PRICE, each .. .. **£7 - 10**
Code word .. .. **zinle**

Illustrations of other designs forwarded on application.

Impulse Insertion Clocks.

For interior use.

Made adaptable for insertion in any existing or prospective panelling or where a protruding clock is undesirable.

The case being of metal permits of its use in humid or ant-infested regions.

FIG. C11. IMPULSE INSERTION CLOCK. Movement sunk into shallow metal dish with **hermetically-sealed joint. Enamelled metal dial,** strong glazed brass bezel. **Other designs and finishes to order.**

We recommend the adaptability and general utility of this model to our friends.

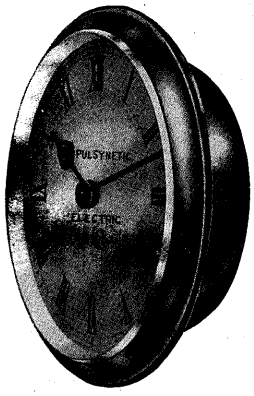


Fig. C11. INSERTION CLOCK.

Diameter of face	6-in.	8-in. *	9-in.	10-in. *	12-in.	18-in. *	
Overall diameter (approx.)	$7\frac{1}{8}$-in.	$9\frac{1}{4}$-in.	10-in.	$11\frac{1}{8}$-in.	$13\frac{1}{8}$-in.	$19\frac{1}{2}$-in.	(E)
PRICE, each	**£5 - 4**	**£6 - 8**	**£6 - 12**	**£6 - 18**	**£7 - 10**	**£13 - 4**	
Code word	**zinno**	**zinon**	**zinup**	**zioxy**	**zipal**	**zipem**	

N.B.—Sizes marked thus * are made to order only. We also make Clocks of 14-in. and 16-in. diameter of face to order only.

"PUL-SYN-ETIC" SYSTEM.

Impulse Wall Clocks.

For exterior or damp interior use—Hermetically sealed.

Fig. C24. IMPULSE WALL CLOCK.
Cast-Iron Case.

The Impulse Clocks shown on this page may be used in **outdoor and exposed or damp indoor positions.**

THE "UNDERGROUND" PATTERN IMPULSE WALL CLOCK FOR OUTDOOR AND EXPOSED POSITIONS.

FIG. C24. IMPULSE WALL CLOCK, cast-iron case water and airtight, steam and fume-proof. Dial of cast-iron enamelled white with **raised black chapters and minute marks.** Strong glazed bezel **hermetically sealed. "Pul-syn-etic"** patent simple locked movement. Substantial terminals in separate compartment.

(E)

Diam. of Face	9-in.	12-in.	16-in.	18-in.	20-in.	24-in.	30-in.	36-in.	42-in.
PRICE, each	**£5-0**	**£5-4**	**£7-16**	**£9-0**	**£10-5**	**£13-0**	**£17-5**	**£20-3**	**£26-4**
Code word ..	**zipla**	**zipme**	**zipop**	**zippo**	**zipry**	**zipyr**	**ziran**	**zirep**	**zirna**

N.B.—The above type of clock CANNOT BE SUPPLIED WITH OPAL DIALS.

IMPULSE WALL CLOCK, HERMETICALLY SEALED, FOR OUTDOOR AND EXPOSED POSITIONS.

FIG. C20. IMPULSE WALL CLOCK. Strong **wrought-iron case, water and air-tight. White enamelled metal dial** with glazed bezel **hermetically sealed. "Pul-syn-etic"** patent simple locked movement. Can also be supplied with parallel sides to fit into openings or recesses in walls.

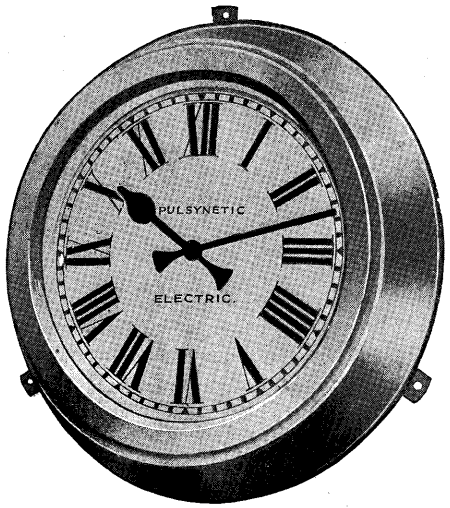


Fig. C20. IMPULSE WALL CLOCK.

(E)

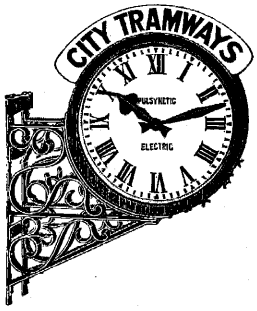
Diameter of Face ..	18-in.	24-in.	30-in.	36-in.
Diameter of Case (approx.)	25½-in.	31½-in.	37½-in.	43½-in.
PRICE, each *	**£14-2**	**£20-8**	**£28-4**	**£38-5**
Code word	**ziror**	**zirpe**	**zirro**	**zirty**

*** These prices are for opaque faces. Opal dials can be supplied where desired, at extra cost.**

"PUL-SYN-ETIC" SYSTEM.

Impulse Drum Clocks. For exterior use.

Arranged for interior or exterior illumination.



Showing **Fig. C25 Drum Clock** on ornamental Iron-work Bracket. **Other designs on application.**

SPECIALLY SUITABLE FOR FRONT OF BUILDINGS, YARDS, STATIONS, AND OTHER PUBLIC POSITIONS.

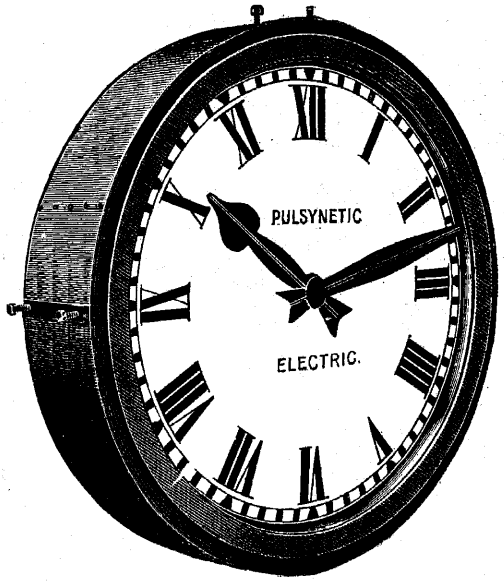


Fig. C25. TWO-FACED DRUM CLOCK.

Owing to its comparatively light construction the Fig. C25 Drum Clock is specially suitable for bracket suspension. A typical design of ornamental support is shown in small illustration.

Although the Drum Clock is not heavily built, nothing is sacrificed in the way of durability, efficiency and reliability and the fact that it has been adopted in various sizes by some of the leading Railways and Tramways in this country is sufficient guarantee of its value.

When supplied with opal dials the clock may be internally illuminated.

FIG. C25. IMPULSE DRUM CLOCK (two dials). Consisting of **"Pul-syn-etic"** standard pattern simple locked type Impulse movements in **heavily galvanised wrought-iron drum case,** suitably painted. **Enamelled metal dials** and aluminium hands (black finish) protected by heavy plate glass fronts, all **hermetically sealed.** Tapped holes and bolts provided at three positions for securing to bracket.

(E)

Diameter of faces	18-in.	24-in.	30-in.	36-in.	42-in.	48-in.
Diameter of Case (approx.)..	21¼-in.	27¼-in.	33¼-in.	39¼-in.	45½-in.	52-in.
PRICE, each	**£33 - 4**	**£42 - 10**	**£54 - 8**	**£67 - 2**	**£80 - 6**	**£93 - 5**
Code word	**zirus**	**ziryt**	**zisap**	**zisir**	**zisos**	**zispa**

N.B.—The above prices are for OPAQUE FACES. Opal dials permitting internal illumination can be supplied at extra cost.

"PUL-SYN-ETIC" SYSTEM.

Impulse Drum Clocks. For exterior use.

Arranged for external illumination only.

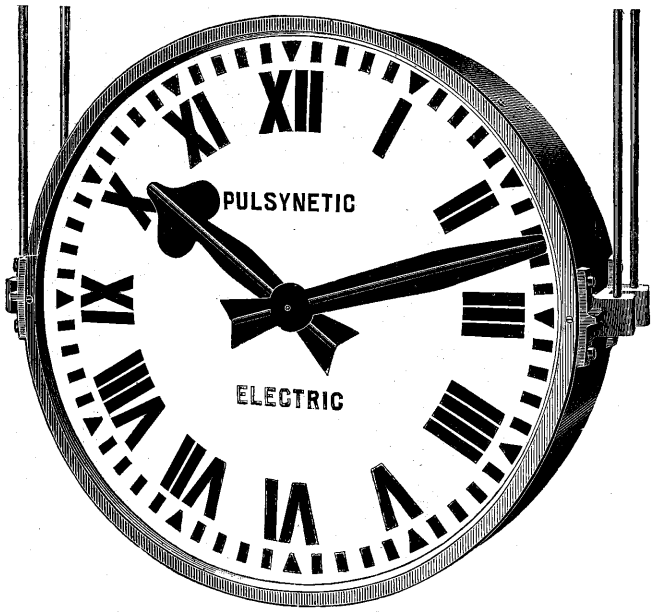


Fig. C34. TWO-FACED DRUM CLOCK.

SUITABLE FOR STATION PLATFORMS, FACTORIES AND LARGE WORKS.

AS SUPPLIED TO—
LEADING RAILWAYS, WOOLWICH ARSENAL, MUNITION FACTORIES, &c.

EXTERNAL ILLUMINATION ONLY.

The above clocks are of the same general construction as Fig. C24, page 9, but have two dials, back to back, **enclosed in suitable iron drum and hermetically sealed.**

Although not illuminated from the inside, these clocks lend themselves effectively to external illumination ; the fact of the chapters being raised and the " ground " being matt-white enhances this external lighting effect.

These clocks can also be supplied with eye-bolts for suspension from chains, in lieu of fittings for suspension from rods as shown.

Fig. C34. IMPULSE DRUM CLOCK (two dials). Consisting of **"Pul-syn-etic"** Standard pattern simple locked type Impulse movements. **Cast-iron dials** with **raised chapters and minute marks.** Strong glazed bezels. All **enclosed in suitable iron drum.** Complete with substantial cast brackets attached for suspension bolts.

(E)

Diam. of faces ..	12-in.	16-in.	18-in.	20-in.	24-in.	30-in.	36-in.	42-in.
PRICE, each	**£13 - 2**	**£17-12**	**£22 - 5**	**£24 - 3**	**£32 - 6**	**£43 - 4**	**£50 - 6**	**£65 - 2**
Code word	**zisso**	**zisut**	**zisvy**	**zisyv**	**ziter**	**zitre**	**zituv**	**zitwy**

N.B.—The dials of these clocks CANNOT be supplied in opal. For opal dial clocks see page 10.

"PUL-SYN-ETIC" SYSTEM.

Impulse Clocks without cases.

FOR INSERTING IN GLAZED OPENINGS IN WALLS, PARTITIONS, ETC.

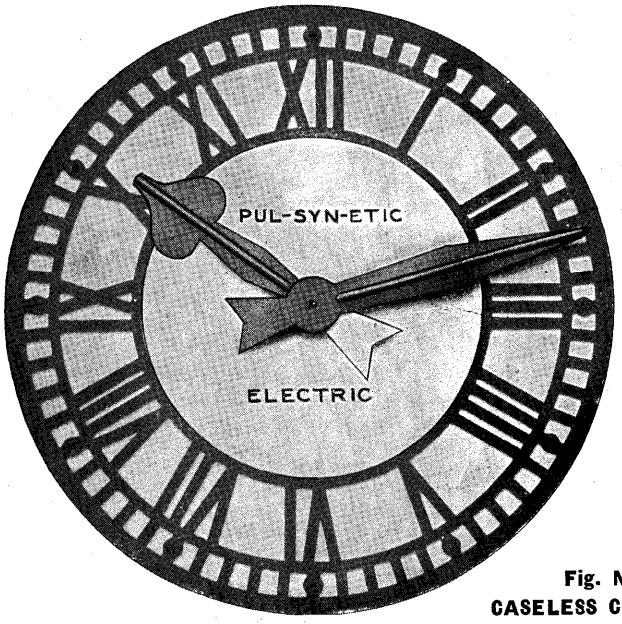


Fig. No. C49
CASELESS CLOCK (large).

These Clocks are designed to fix into openings in walls, etc., the sides of the opening forming the housing for the Dial Movement.

We list below these Clocks in various sizes from 18 inches to 84 inches dial diameter, and special sizes are often made to order.

These Clocks consist of an opal glass dial of suitable size for the opening, complete with the movement (fitted in dust cover) and hands, the dial being mounted in an angle-iron ring in the smaller sizes. In the larger sizes the Clocks consist of a skeleton cast-iron dial fitted with sections of opal glass. As the hands of the Clock are driven by Impulse Movements, the Clocks are not suitable for direct exposure to the wind and weather unless protected by a glass front.

If not already existing, suitable glass fronts can be supplied at extra cost. These are mounted in angle-iron rings, made to fit within the opening and in front of the dial.

No such protection is needed, however, when the Clocks are fixed under cover or where shielded.

Being fitted with opal glass, these Clocks may be illuminated internally by simply fixing lamps behind the dials.

Clocks to suit square, octagonal or other shapes of openings can be supplied where necessary.

Diam. of face ..	18-in.	24-in.	30-in.	36-in.	42-in.	48-in.	54-in.	60-in.	66-in.	72-in.	84-in.
PRICE, each ..											
Code word ..	**ziugh**	**ziuhj**	**ziujk**	**ziulm**	**ziumn**	**ziurs**	**ziust**	**ziuzb**	**zivar**	**zivit**	**zivov**

PRICES ON APPLICATION.

N.B.—Sizes 18-in. to 30-in. have one-piece opal glass dials, mounted in angle-iron ring, with chapters of the design shown at Fig. C34 (page 11).

Sizes 36-in. to 84-in. (inclusive) have skeleton cast-iron dials with opal glass sections, approximately as illustrated at Fig. C49).

"PUL-SYN-ETIC" SYSTEM.

Impulse Contact Maker. Non-Adjustable.

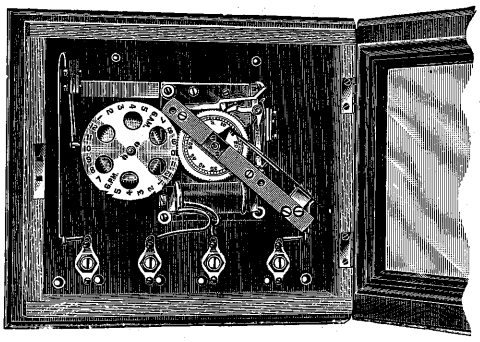


Fig. C68—CONTACT MAKER.

Where a fixed programme of times is adhered to, or where times requiring odd half-minutes are involved the **Fig. C68 Contact Maker** is recommended.

The signal contacts are operated by means of notches cut in a disc and therefore cannot be varied except by alteration at these works. The programme of times must therefore be stated when ordering.

For Complicated programmes additional movements mounted in same case are necessary.

FIG. C68. CONTACT MAKER (Fixed Programme). Consisting of Impulse movement and contact mechanism, setting dial and terminals. All mounted in polished wood case with glazed front panel and lock and key.

	PRICES.	Code word.	
ONE MOVEMENT and FIRST CONTACT	**£9 - 0 - 0**	**zivra**	(E)
Extra for 7-DAY WHEEL	**£4-10 - 0**	**zivse**	
Extra for TWO MOVEMENTS with first two Contacts	**£18 - 0 - 0**	**zivvo**	
Extra for EACH ADDITIONAL CONTACT to either of the above	**9 - 0**	**zivyx**	

Impulse Contact Maker. Adjustable.

For operating "Start-and-Cease-Work" Sound Signals.

THIS **CONTACT MAKER,** driven by an impulse movement may be included in the **"Pul-syn-etic"** system and operated by a Time Transmitter as shown on page 5.

The impulse movement drives an aluminium wheel—revolving once in 24 hours—containing a graduated scale and pin holes. By inserting pins provided in appropriate holes any programme of signals may be operated arranged at the even five minutes.

Where a number of sound signals are employed or service mains are used to operate the signals, a relay is necessary.

Fig. C69—CONTACT MAKER.

FIG. C69. CONTACT MAKER (Adjustable Programme). Consisting of impulse movement, aluminium wheel with graduated scale, spring contacts for closing circuit at required times. All contained in well finished polished wood case with glazed front panel and provided with lock and key.

PRICE	**£21-10 - 0**	
Code word	**ziwas**	
EXTRA PRICE for 7-day wheel to automatically cut out Saturday afternoon and Sundays	**£4-10 - 0**	(E)
Code word	**ziwet**	

"PUL-SYN-ETIC" SYSTEM.

"Start-and-Cease-Work" Sounders.

For working in conjunction with Contact Makers shown on page 13 and below.

DURATION CONTACT.

When the Sound-Signals illustrated below are operated direct by the Contact Makers Fig. C68 or C69 (see page 13) the duration of the contact lasts for half a minute.

If this period is considered too long the Fig. C60 Duration Contact may be used to deal with shorter periods of from five to fifteen seconds by adding it to the Sound-Signal Circuit.

FIG. C60. DURATION CONTACT on **solid cast metal base,** with heavy gold-silver contacts and necessary terminals. All contained in polished **wood case with glass door.** (E)

PRICE, each .. £8 - 15 - 0

Code word .. .. ziyat

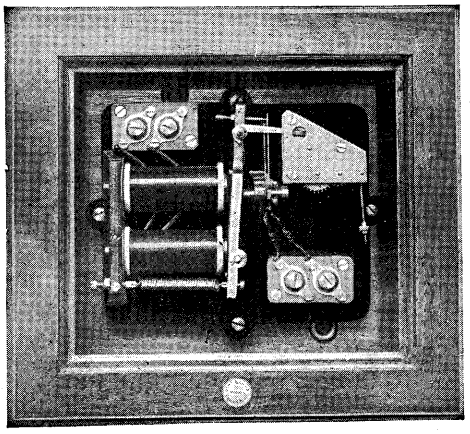


Fig. C60—DURATION CONTACT.

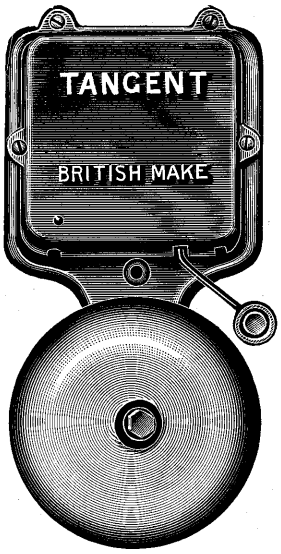


Fig. P145.

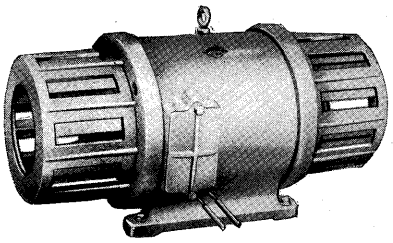
IRONCLAD BELL, for working direct on A.C. or D.C. mains up to 250 volts, as ordered.

All sizes of gongs up to 12-in. diameter.

See "Leaflet 36."

"TANGENT" ELECTRO-MOTOR SYREN, for working direct on A.C. or D.C. mains up to 500 volts. Sizes varying from ¼ h.p. to 4 h.p.

"See Leaflet 57."



"TANGENT" SYREN—Two Rotors.

FIG. 365.

TANGENT "TOUCHTONE" HORN. An industrial Hooter in **cast-metal case.** Can be supplied to work off Batteries or direct from Power Mains, as ordered. **Flameproof, Fireproof** and **Watertight.**

See "Leaflet 87."

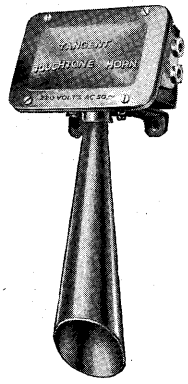
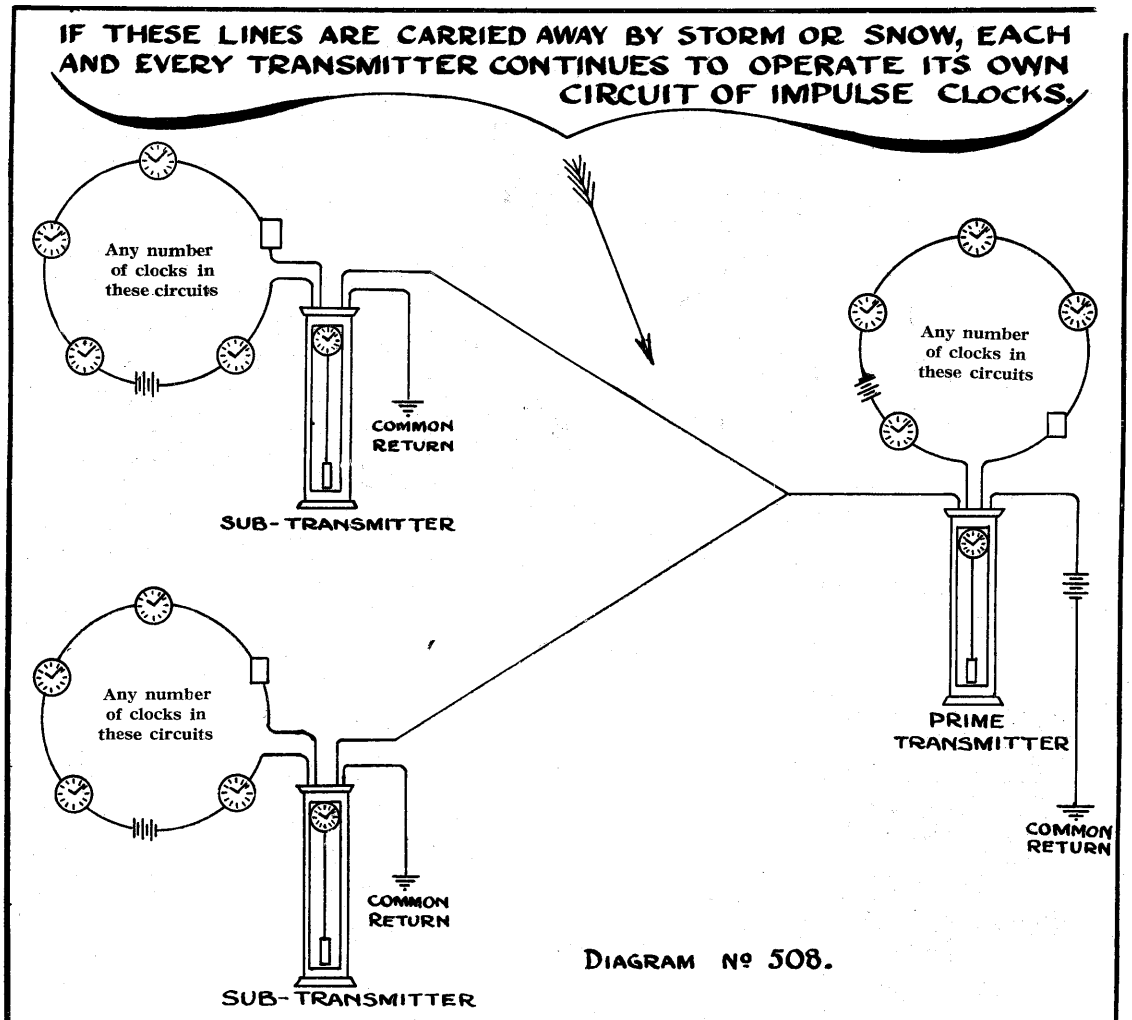


Fig. 365.



SUB-CONTROL OF TRANSMITTERS.

Where a large area is served by the **"Pul-syn-etic"** Electric Impulse Clocks involving outdoor spans of overhead wires the risk of a temporary dislocation of service is incurred through damage by snow, storm, or constructional alterations.

The arrangement of sub-control circuits however prevents a stoppage of any part of the system, the worst that can happen being slight variations of time keeping in the sub-circuits through being cut off from the Prime Transmitter.

The above diagram shows the general arrangement of the Sub-Control system.

To install the Sub-Control system Prime Controlling Contacts are necessary, and also Sub-controlling Devices on Sub-Transmitter.

PRICE.—Fitting **Prime Control Contacts** to Transmitter Dial .. .. **£3 - 4 - 0** (E)
Code word .. .. **ziwiv**
PRICE.—Fitting **Sub-control Device** and **Contacts** to Fig. C7 Transmitter **£7 - 12 - 6**
Code word .. .. **ziwux**

"PUL-SYN-ETIC" SYSTEM.

"Idle Machine" Recorders.

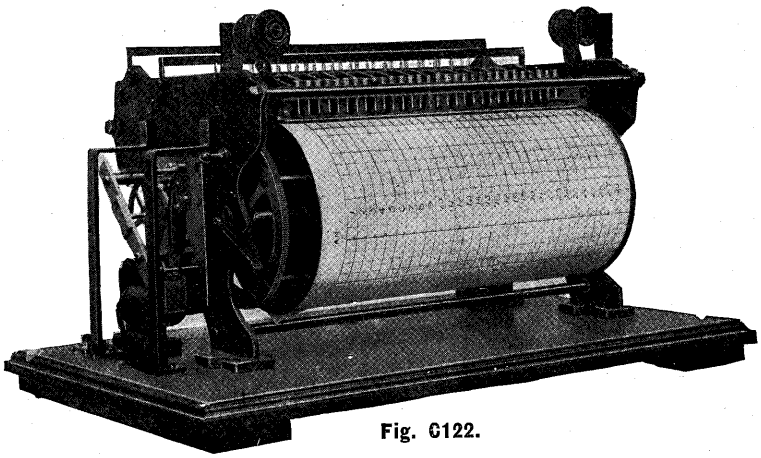


Fig. C122.

Where the management is keen on output in a factory or works employing machines for producing articles or parts the possibility of recording the period of "idleness" or inaction of any individual machine by means of the IDLE MACHINE RECORDER will be welcomed.

The Recorder consists of a drum driven by the impulses from the **"Pul-syn-etic"** Transmitter. Secured to the drum is a chart divided into columns (one for each machine) and marked with working hours. Arranged on the upper part of the Recorder are a number of marker units, one for each machine and corresponding to the machine columns on the chart.

On a machine becoming idle a CONTACT UNIT (Fig. C124) connected to the Recorder causes a record to be made on the chart and this record is continued during the stoppage of the machine.

FIG. C122. IDLE MACHINE RECORDER consisting of revolving drum and chart, impulse movement, contact markers and marker ribbon all carried on a highly finished framework and enclosed in solid hardwood cabinet.

See Special Leaflet No. 29.

PRICES ON APPLICATION—for 5, 10, 15 or 20 Station.

ACCESSORIES FOR "IDLE MACHINE" RECORDERS.

The following accessories are required to work in conjunction with the IDLE MACHINE RECORDER illustrated above.

CONTACT UNIT.—For attaching to machine to enable stoppages or periods of idleness to be recorded on chart of Fig. C122 Recorder.

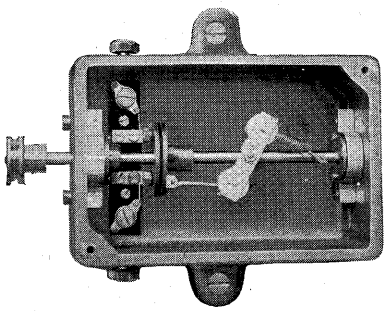


Fig. C124.—CONTACT UNIT.

PRICES ON APPLICATION.

RELAY.—For connecting in impulse circuit to operate markers at each half minute.

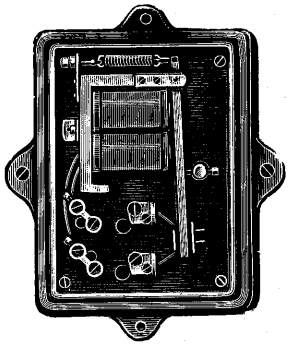


Fig. 1418.—RELAY.

"PUL-SYN-ETIC" SYSTEM.

"REFLEX" Pendulum Control.

For Workmen's Recorders of any type or make with pendulum.

The introduction of the **"Pul-syn-etic"** ELECTRIC IMPULSE CLOCKS for Industrial purposes has resulted in universal and accurate time being available throughout the factory, works, etc., where installed.

The bringing in line of Workmen's Time Recorders with such a system was originally accomplished by fitting an impulse driven escapement to the time gear in lieu of the spring driven escapement.

With the introduction of the "PUL-SYN-ETIC" PATENT "REFLEX" CONTROL however the clock mechanism of such Recorders remains intact, the controlling device operating on the pendulum, and by this means keeping the time—and consequently the printing—uniform with the other time dials.

As will be seen from the illustration the "REFLEX" Control consists of an attachment secured to the existing pendulum which is engaged by a rack attached to an electro magnet energised by the half-minute impulse of the **"Pul-syn-etic"** System.

The "REFLEX" Control can be fitted to existing or new Recorders of any make using a Pendulum.

See **"Leaflet 52"** for further particulars.

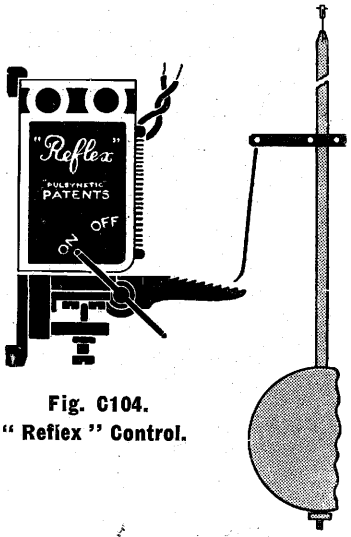


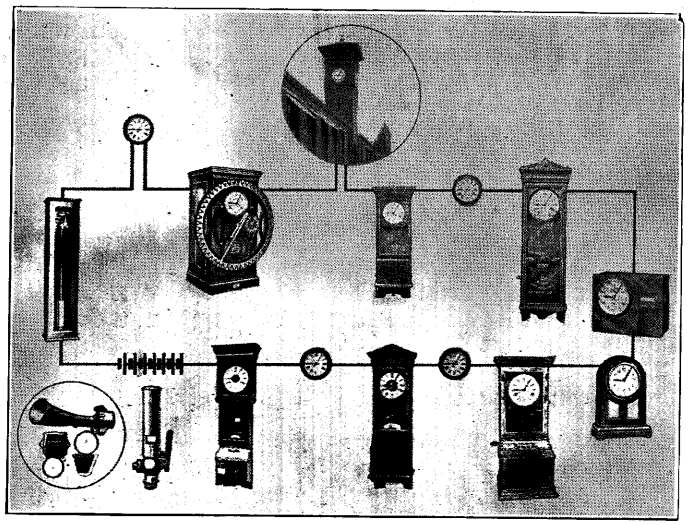
Fig. C104.
"Reflex" Control.

(E)

FIG. C104.—PRICES.

"REFLEX" CONTROL, unfitted .. .. (Code word—ziybd) £4-10-0 each
"REFLEX" CONTROL fitted to Recorders at these works .. £5-12-6 „

(Can be fitted to Recorders by us at customers' works at latter price, plus fares, etc.)



The **"REFLEX" PENDULUM CONTROL can be fitted to any known make of Recorder** operated by pendulum clockwork.

This diagram shows all known makes of Time Recorders in circuit and to which we have fitted **"REFLEX" CONTROL.**

N.B.—We do not make Workmen's Time Recorders, but can fit **"REFLEX" Control** to those you have.

"PUL-SYN-ETIC" SYSTEM.

Battery for Impulse Clocks.

We cannot too strongly emphasise the fact that **the quality of the Battery and its housing are most important factors in the Clock Installation.**

In the majority of cases we recommend a primary battery of high efficiency cells for such purpose and the **special Heavy-Duty type of Leclanche cells illustrated below are recommended** for such work and **when housed in the Fig. 1048 filleted and felted showcase airtight Battery box** forms a very efficient and reliable source of energy, protected from external damage, etc.

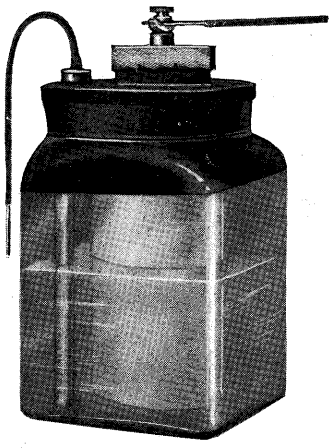


Fig. 1046. Heavy-Duty Cell.

FIG. 1046. LECLANCHE CELLS. Heavy-Duty (three-pint size) with specially prepared Porous Pots and Zinc Rods. Including Salammoniac; Porous Pots fitted with **"Tangent" Patent Anti-Vibration Terminals.**

PRICE .. .. .. **57/-** per dozen. (H)
Code word .. .. **ziycf**

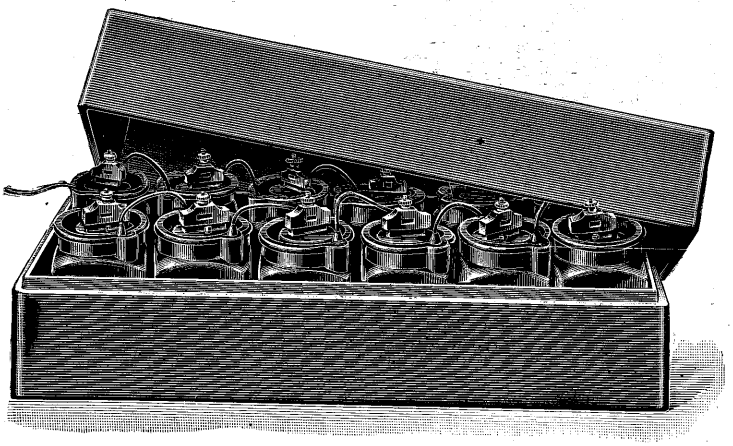


Fig. 1048. AIRTIGHT BATTERY BOX. (Showing cells in position).

FIG. 1048. AIRTIGHT BATTERY BOX, in well-seasoned wood, with square dovetailed joints, removable lid provided with filleted and felted air-tight and dustproof joint.

PRICES (Boxes only):

		Code word.			Code word.
6-Cell Box	.. **22/-** each	**ziyev**	10-Cell Box	.. **27/3** each	**ziyjl** (H)
8-Cell Box	.. **24/9** ,,	**ziyhk**	12-Cell Box	.. **33/-** ,,	**ziyln**

N.B.—The above Boxes are supplied in three-pint size only.

Weak Battery Warning Bell.

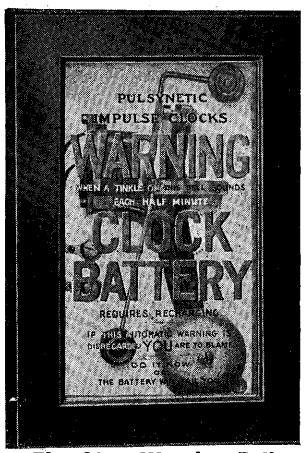


Fig. C8. Warning Bell.

By fitting this Warning Bell in the circuit of a system of Electric Impulse Clocks, all anxiety regarding the condition of the battery is removed, and no other testing apparatus or any periodical inspection is necessary. Immediately the battery begins to weaken, the gong is struck at each half-minute impulse until the battery has been given the necessary attention.

The **Warning Bell requires no special battery to operate it,** and can be fitted in any suitable position, **being simply connected in the circuit exactly as an Impulse Clock.**

FIG. C8. WEAK BATTERY WARNING BELL.

Consisting of impulse bell movement with balanced hammer operating on $2\frac{1}{4}$-in. gong. All contained in polished wood case with glass door which makes the warning visible as well as audible.

Overall size (approximately), 12-in. × 8-in. × 4-in.

PRICE .. .. .. **£2-0-0** each (E)
Code word .. .. **ziymp**

"PUL-SYN-ETIC" SYSTEM.

Accumulators.

Where an Electric Current supply is available for re-charging purposes, our customers sometimes prefer to install Accumulators instead of Leclanche Cells, to provide the Electric Current for operating " Pul-syn-etic " Clocks.

For this purpose we recommend our Accumulator described and illustrated below.

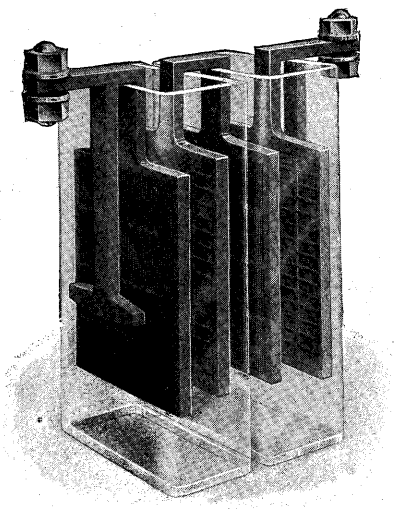


Fig. 2143.—Accumulator for Clock Circuits.

ACCUMULATOR (2 Volt), consisting of positive and negative plates **burned together** in pairs (instead of being bolted), with massive end terminals. Plates suspended in glass containers with ample clearance to prevent short-circuiting. (H)

FIG. 2143. ACCUMULATOR, 6 ampere-hour capacity. Approximate size glass container 6½-in. × 4-in. × 2-in.

PRICE .. .. .. **10/6** each
Code word .. .. **ziyoy**

Fig. 2143a. ACCUMULATOR, 10 ampere-hour capacity. Approximate size glass container 6½-in. × 4½-in. × 2-in.

PRICE .. .. .. **13/6** each
Code word .. .. **ziyta** (H)

N.B.—Prices above do not include Acid or Charging.

It is recommended that duplicate batteries be installed so that one may be charging whilst the second is in use.

Accumulator Charging Board.

FOR CHARGING CLOCK CIRCUIT ACCUMULATORS FROM D.C. MAINS.

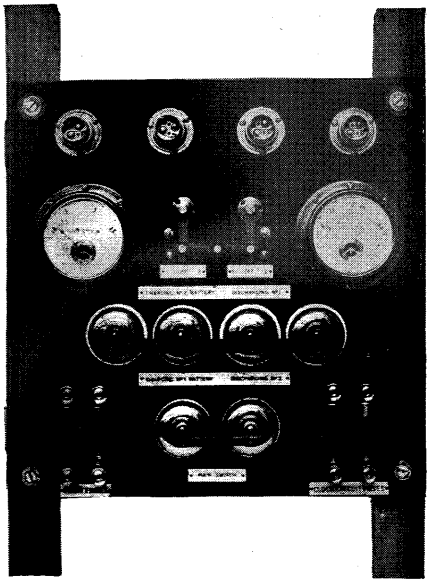


Fig. 2154.—Charging Board for Clock Circuits.

FIG. 2154. CHARGING BOARD. Consisting of lamp holders for regulating lamps ; Ammeter ; Voltmeter ; Change-over Switch ; coupled Switches for controlling " **Charge** " and " **Discharge** " of duplicate Batteries ; Fuses for " Charging Circuit " and for " Clock Circuit," also Main Switch. All mounted on Panel with fixing battens. (E)

PRICE .. .. **£11-10-0** each
Code word .. **ziyuz**

Approximate size of Panel 16-in. × 16-in.

SER. NO. 2500 26/8/26

"PUL-SYN-ETIC" ELECTRIC CLOCKS.

SOME PROMINENT USERS—SOME NAMES YOU KNOW.

PUBLIC, TURRET AND CHURCH CLOCKS.

The Royal Liver Building, Liverpool.
The "Times" Office, Queen Victoria Street, London.
St. George's Church, Leicester.
St. Mary's Church, Northampton.
Holy Trinity Church, Northampton.
Spennymoor U.D.C.
Brand & Co., Mayfair, London.
Armstrong, Whitworth & Co. Ltd., Newcastle-on-Tyne.
Bournville Public Baths (Cadbury Bros.)
Evington Hall, nr. Leicester.
Broadgate and Warwick Road, Coventry.

RAILWAY STATIONS.

St. Pancras, London, L.M.S.
Manors Station, Newcastle-on-Tyne.
Nuneaton Station.
Whitley Bay Station.
Sydney Railway Station, N.S.W.
Delhi Station.
Toronto Railway Station.
Pretoria Railway Stations.

PUBLIC BUILDINGS, INSTITUTIONS, ETC.

New Central Criminal Court, Old Bailey.
Cardiff New General Post Office.
South Shields Municipal Buildings.
Leicester Technical School.
Royal Courts of Justice, London.
Gateshead Mental Hospital, Stannington.
Sandhurst Military College.
Watford Grammar School.
Leicester & Rutland Mental Hospital.
Newport Borough Asylum.
Coventry Town Hall.
Workshops for the Blind, Leicester.

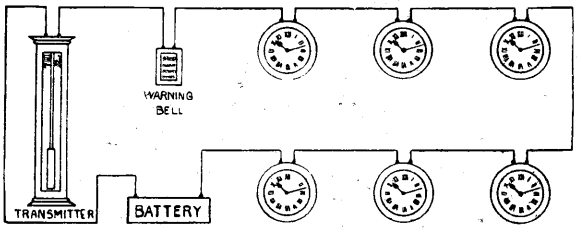
LARGE WORKS, ETC.

Woolwich Arsenal.
Kynoch Ltd., Birmingham.
Vauxhall Motors Ltd., Luton.
Stanton Iron Works Ltd., Nottingham.
Herbert Morris, Ltd., Loughborough.
Rouse Bros., Oakworth.
Toon & Sons, Earl Shilton.
N. Corah & Sons, Leicester.
British Thompson Houston Ltd., Rugby.
Emerson, Walker & Thompson Bros., Ltd., Dunston-on-Tyne.
North Eastern Marine Engine Co., Ltd., Wallsend-on-Tyne.
Andrew Reid & Co., Ltd., Newcastle-on-Tyne.
British United Shoe Machinery Co. Ltd., Leicester.
Chance & Hunt Ltd., Oldbury.
Mather & Platt, Manchester.
Earle, Bourne & Co. Ltd., Birmingham.
Wolsey, Ltd., Leicester and Keighley.
H.M. Dockyard, Rosyth.

OTHER PROMINENT USERS.

New Parliament Buildings, Ottawa.
Dominion Bank, Toronto.
Port of London Authority.
Sir Elkanah Armitage & Co., Pendleton.
Dunlop Rubber & Cotton Mills, Castleton.
J. B. Lewis & Co., Ltd., Nottingham.
Banca Commercial Italiana, London.
Castner-Kelner Alkali Co. Ltd., Runcorn.
Cammell Laird & Co. Ltd., Birkenhead.
Faire Bros. & Co. Ltd., Leicester.
Mitchells & Butlers, Birmingham.
National Physical Laboratory, Teddington.
The British Broadcasting Co. Ltd.
Provincial Cinema Ltd., New St., Birm'g'm.

DIAGRAM OF CONNECTIONS OF PUL-SYN-ETIC IMPULSE CLOCK CIRCUIT.



The Diagram shews how simple is the Wiring. An ordinary 1/.044" S.W.G. E.L. wire is carried between the clocks to form a circuit.

SHIPS.

Q.T.S.S. Aquitania. s.s. Burma. s.s. Princess Irene. s.s. Transylvania. s.s. Scythia. s.s. Minnedosa. s.s. Franconia. s.s. California. s.s. Sarpendon. s.s. Patroclus, etc., etc.

OBSERVATORIES.

Nizomian Observatory, Hyderabad.
Royal Alfred Observatory, Mauritius.
St. John's Observatory, New Brunswick.
Hong Kong Observatory.
Macau Observatory.
Glasgow Observatory.