

ELECTRICAL HOROLOGY SOCIETY OF THE N.A.W.C.C.

NEWSLETTER #4

2-8-73

Hello fellow enthusiasts:

This Newsletter follows very closely on the heels of Newsletter #3 as the amount of material I have ready for print is considerably more than I had the last time. This does not mean I want you to stop sending questions, technical information, WANTS and FOR SALES. Of the original 45 people who were interested 13 people did not respond to the SASE I sent along for dues, but happily we have received enough new dues-paying members to give our Society a healthy membership of 42.

Some of the correspondence I have received has indicated to me that an 8½ x 11 format would be easier to include in a binder. We have purchased legal paper because we can print more per page thus incurring less expense. One can fold the bottom ½ page up for inclusion in a small binder.

The MODEL ENGINEER is available in the New York Public Library--Science Technical Research Center. Other large cities which have a reference center attached to the Public Library may also carry this periodical.

We have been thinking of formally requesting membership as a new chapter in the NAWCC. Of course we shall all be charter members--which is a distinction of sorts, I would guess!. I feel, however, that we should continue as a private off-shoot for at least 8 to 12 months more to see if we can generate enough sustaining interest for those in our group and for others who may eventually join to warrant such a venture.

Again may I remind all of us that the BULLETIN rarely offers work on electrical horology, not because of preference but because there is a dearth of suitable material being presented to them for editorial review. Therefore, we must always be thinking of publishing information on electrical horology of which so little is known. (Have you tried buying a book on electrical horology lately?!!!).

I have not receipted cash as this would be a further expense which we do not need. If you are receiving this Newsletter, then you know you are paid-up until January 1974. I am, however, keeping records of income and expenses.

As you see if you compare this Newsletter to the last one we have considerably more MART insertions and technical information. This is good although we still need more response from you in these areas, so keep those cards and letters coming.

Stuart Young has sent a very nice piece of blued suspension steel (.005") which his company SYMCO has available. For 50¢ one can make at least 8 good suspensions for Master clocks. Stu has assorted other goodies. Why don't you write to him for further information!

A Roster of the present paid membership is included with this Newsletter.

Wishing you all charged batteries and clean contacts!

Electromagnetically yours,  
Marty Feldman

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MART

WANTED:

Clocks by BRILLÉ, BENTLEY, WARREN and RIEFLER; catalogs to buy or to Xerox.

FOR SALE:

WALLACE & TIERNAN wall clock-good condition-----\$85.00

Alan Marx, 14 Michael Drive, Scarsdale, N.Y.

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FOR SALE:

Limited amount of suspensions, hairsprings, & isochronism springs for Bulle clocks.

Re-magnetize Bulle magnets---Write your needs.

Will repair Bulle clocks----Write your needs.

Marty Feldman, 1545 Rhinelander Ave. Bx, N.Y. 10461

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WANTED:

RIEFLER Master clock, SHORTT free pendulum master clock, FAVARGER Master & slave clocks, books, pamphlets, Bulle parts, etc. Will trade or pay.

Marty Feldman, 1545 Rhinelander Ave. Bx. N.Y. 10461

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FOR SALE:

E. Howard Electric Watchman's Clock & Regulator, for one watchman, in 4'6" x 19" cherry case, with 11" dial, in mint condition-----\$850.00

Colored pictures available. This clock also illustrated on the inside back cover of Howard 1888 Watchman's Clock catalog, reproduced by Adams Brown Co.

Clock is located in the Cleveland area.

SALE:

30 Day Electro-Clock Co. wall clock in 13" x 16" steel case with 9" dial. This clock originally served as a master for some sort of electrical system.

It has a short stroke very heavy pendulum. The movement, oval in shape, was patented October 13, 1908-----\$ 75.00

William C. Wolfred, 1440 W. Michaels Rd. Tipp City, Ohio 45371 -1-513-667-2330

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FOR SALE:

Suspension steel as well as assorted clock material. Write for catalog.

Stuart Young, 312 Shady Brook Drive, S.E. Huntsville, Alabama 35801

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FOR SALE:

Miniature Bulle under dome-completely overhauled with original parts in excellent condition-----\$ 80.00

Martin C. Feldman, 1545 Rhinelander Ave. Bronx, N.Y. 10461

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WANTED:

Glass dome for Eureka 6 1/2" to 6 3/8" x 10" to 11" high.

Gene Hines, 16588 Oleander Ave. Los Gatos, Calif. 95030

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WANTED:

Mountain State Electric Co. Wheeling, W.Va. battery clock 8 7/8" high "No key" inscribed on dial. Also, Warren, Ashland, Mass. battery clock same as illustration on #546 in BP-BOAC.

Lloyd S. Kozbelt, 526 Mifflin Ave. Pittsburgh, Penn. 15221

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WANTED:

Suspension assembly and pendulum for double contact Tiffany Never-Wind.

Joseph Singer, 2572 Traymore Road, University Heights, Ohio 44118

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WANTED:

- 1) Eureka Clock
- 2) Suspension assembly for double contact Tiffany Never-Wind.
- 3) Glass dome 7" x 14".

Jean Nicca, 1193 Via Del Carmel, Santa Maria, Calif. 93454

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WANTED:

Coil for large Bulle Clock.

George Feinstein, 1455 East 88 Street, Brooklyn, N.Y.

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TECHNICAL SECTION

The list of makers of Electrical Clocks to be found in member's collections has grown to include the following. All are American except those listed as foreign.

American Clock Co.	Perret--(David Perret)---Swiss
ATO (Hatot)---French	Poole clock
Bangor Clock Co., Bangor, Maine	Pul-Syn-Etic (Gent & Co.)---English
Barr	Riefler clocks---German
Bentley---English	Sangamo clock
Blodget Clock Co.	Semens---German
Brillé---French	Sempire
Bulle---French	Self-Winding clock Co., Bklyn, N.Y.
Eureka---English	Self-Winding clock Co., Champagne, Ill.
Ever-Ready Clock Co.	Stromberg Electric Co.
Holtzer Magneto Clock Co.	Synchronome---English
Imperial Clock Co.	Tiffany Electric
International Time Recording	Tiffany Never-Wind
Landis Clock Co.	Wallace & Tiernan---N.J.
Lowne Clock Co.--English	Warren Clock
Miller Clock Co.	Warren Telechron (A.C.)
Morse Chain Co.-Ithaca, N.Y.	Zenith clock---Swiss
(parent company of Poole & Barr)	
Mountain State Electric Co.	
Murday Clock (balance wheel & pendulum types)---English	
National Magnetic Clock Co.	
National Self-Winding Clock Co., Bristol, Conn.	
Niagara Clock Co.	

Repairing a Bulle Suspension by Dr. F.G.A. Shenton

1. Examine original carefully. It will be found that a thin strip of soft lead wire is embedded in a groove. This groove is positioned towards the middle of the suspension.
2. To remove securing screws, that have been riveted, centre punch and drill out centre of screw, reamer to remove remainder of screw and retap 12 B.A.
3. Approximately 3/16 inch fine silk ribbon suitable.
4. Useful to make a small jig to locate the two halves of the suspension using a pin through the centre hole of brass plate. This pin is more useful if threaded (see No. 8).

5. Position half of upper and half of lower suspension plate in jig.
6. A touch of "Secotine" or other spirit glue to outer ends of plate helps to secure ribbon. Avoid any excess near functional portion of suspension.
7. Place two strips of ribbon in position ensuring that upper and lower suspension blocks are parallel.
8. Place remaining halves of suspension plate in position. It is helpful at this stage if the pin referred to in No. 4 has been left with a threaded upper end so that a knurled nut can be now screwed in position to temporarily clamp plate in position.
9. Pass a red hot needle through the two 12 B.A. holes and this makes a neat hole in the silk. (If this is not done the screw thread twists the silk ribbon and spoils suspension).
10. Insert two 12 B.A. screws and gently rivet to spread screw.
11. Carefully file off excess of screw to leave flush with suspension plates.

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 "The two Sempires I own are both made under the July 7, 1891, and Jan. 2, 1894, F. L. Gregory patents. One is a large wall regulator, the other a rather plain, but attractive, mantel clock. The movements are identical except for gearing for different pendulum lengths.

The National Self-winding clocks are the most interesting and the most frustrating to me. I have three of them. The oldest, a wood cased mantel clock, was made in Bristol, Conn., and is unusual because it is a striking clock. The winding mechanism is activated by a mercury switch. So far I've only been able to get it to run for short periods of time; it draws about 1 amp and goes through batteries at a phenomenal rate. The following patent dates are stamped on the plates:

Feb. 19, 1895, Apr. 21, 1895, July 9, 1901, July 1, 1902, July 15, 1902."  
 From, Bob Feiertag

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 "..... It is my considered judgment that it (electric) is the most neglected segment of the industry - the mere fact that: patent No. 11,723, Sept. 26th., 1854 was granted to Alex Hall, Loydsville, Ohio for "Improvement in Electric Clocks" established electric clocks as being around before that date (1854) else how could he improve upon them? Suppose we push that date back by a short four years to 1850; then, if we accept the date for electrics to be that celebrated hassle between Alex Baine and Dr. Wheatstone of 1840, it means that electrics had traveled all the way from Scotland to Ohio in one short decade - rather fast for those days, etc. There must be a good 'story' here - let's work upon it."

From, J. E. Coleman

- Electric Clock Contacts**  
 Vol. 102 No. 2549 30 March, 1950 p. 450  
 " " No. 2554 4 May Letter G.Jackson p.648  
 " " No. 2555 11 May Letter H.G.Bickerdyke p.688  
 " 103 No. 2567 3 August Letter Eric I.R.Bellas p. 199
- An Ultra-Miniature Electric Clock**  
 Vol. 102 No. 2562 29 June, 1950 Stanley J. Wise  
 pp. 935-936, 938
- Hipp Electric Clock**  
 Vol. 106 No. 2663 5 June, 1952 Letter H.P. Emsley  
 " 107 No. 2669 17 July p. 747  
 Letters C.Dudley Fuke &  
 C.R. Jones p.96
- Silencing a Hipp clock**  
 Vol. 109 No. 2736 29 Oct. 1953 H. G. Sharpe  
 pp. 531-532
- A Permanent magnet Electric Clock**  
 Vol. 113 No. 2843 17 Nov, 1955 S. J. Wise  
 " " No. 2844 24 Nov. pp. 728-731, 735  
 pp. 780-783
- Synchrone Electric Clocks**  
 Vol. 114 No. 2872 7 June, 1956 E. T. Westbury  
 pp. 938-939
- Battery-driven Pendulums Experiments in the design of Hipp type electric clock mechanism**  
 Vol. 115 No. 2895 15 Nov, 1956 S.G. Dunleavy  
 pp. 692-696, 711
- The Clock that was "Years Ahead of its Time"**  
 The Eureka was the first battery-driven domestic clock in the world.  
 Vol. 117 No. 2938 12 Sept, 1957 B.S.T. Wallace  
 pp. 364-366, 390
- The Eureka Clock**  
 Vol. 117 No. 2945 31 Oct. 1957 Queries & Replies  
 p. 625
- Bulle Clock (coil details)**  
 Vol. 123 No. 3093 20 Oct. 1960 Letter F. Ryly  
 p. 501
- Magnet for electric clock (making bar magnet)**  
 Vol. 124 No. 3118 13 April, 1961 Queries  
 p. 465
- Eureka Clock**  
 Vol. 124 No. 3124 25 May, 1961 Letter Herbert Wantzen  
 p. 662
- Striking a Bell electrically**  
 Vol. 131 No. 3283 1 Oct. 1965 Queries  
 p. 733
- Making an Electric Time Transmitter & Dial Mechanism** Charles Blazdell  
 Vol. 134 No. 3342 5 April, 1968 pp. 329-331  
 " " No. 3343 19 April pp. 381-384  
 " " No. 3344 3 May pp. 439-441  
 " " No. 3352 6 Sept. pp. 846-848
- Hipp Clock**  
 Vol. 134 No. 3342 5 April, 1968 Letter C. J. Brooks  
 p. 358
- "Hipp" Electric Clock.**  
 Vol. 136 No. 3403 16 October, 1970 J. A. Radford  
 " " No. 3404 6 November pp. 1002-1005  
 pp. 1073-1076

ELECTRICAL HOROLOGY SOCIETY OF THE N.A.H.C.C.

January 1973

- Mr. Fred Bausch, 806 El Camino, San Carlos, Calif. 94070
- Mr. Paul Berg, 114 West Creighton Ave. Ft. Wayne, Indiana 46807
- Mr. Steven Berger, 854 Thornton Lane, Buffalo Grove, Illinois 60090
- Mr. L. I. Campbell, 200 N. El Camino Real, #50 Oceanside, Calif. 92054
- Mr. William Crispin, 1812 East "B" Street, Belleville, Illinois 62221
- Mr. J. E. Coleman, 1116 E. Granada, Nashville, Tenn. 37206
- Mr. Peter De Angelo, Hamtonburgh Road, Campbell Hall, R.D.#1, N.Y. 10916
- Mr. Robert H. Feiertag, 604 Kendall St. Marshall, Minn. 56258
- Dr. George Feinstein, 1455 E. 88 Street, Brooklyn, N.Y.
- Mr. Sidney Crassie, 988 Parkman St. Altadena, Calif. 91001
- Mr. E. A. Hanff, 2344 McNary Blvd. Pittsburgh, Penn. 15235
- Mr. E. W. Hines, 16588 Oleander Ave. Los Gatos, Calif. 95030
- Mr. Lloyd S. Kozbelt, 526 Hifflin Ave. Pittsburgh, Penn. 15221
- Dr. Harry A. Knauff, 4801 Linwood, Kansas City, Missouri
- Dr. Bruce Levy, 3 Saul Place, Plainview, N.Y. 11803
- Mr. Alan Marx, 14 Michael Drive, Scarsdale, N.Y. 10583
- Mr. K. J. Nellaart, 30 Rietzangerlaan, The Hague, Holland
- Mr. A. Mitchell, 117 Chandag Rd. Keynsham, Bristol BS 18 IQF, England
- Mr. Morris Moses, 225 Hansen Ave. Albany, N.Y. 12208
- Mr. Jean Nicca, Jr., 1193 Via Del Carmel, Santa Maria, Calif. 93454
- Mr. Ned Parkhurst, 93 Conestoga Blvd. Lancaster, Penn. 17602
- Mr. J. F. Payne, 2228 Barbara Drive, Clearwater, Florida 33516
- Mr. Junior Pereboom, 908 N. Main, Webster, South Dakota 57274
- Mr. Myron Pleasure, 3713 - 74 Street, Jackson Heights, N.Y. 11372
- Mr. Monroe H. Postman, 10 Yerba Buena Ave. Los Altos, Calif. 94022
- Mr. Anthony Prasil, 2179 Titus Ave. Rochester, N.Y. 14622
- Mr. Walter Quill, 5316 W. Berenice Ave. Chicago, Illinois 60641
- Mr. Jack Reingold, 120 Hove St. Downsview, Ontario, Canada
- Mr. George Richman, 314 East 17 St. Brooklyn, N.Y. 11226
- Mr. Stanley A. Riggs, 148 E. Foster Street, Melrose, Mass. 02176
- Mr. William Ritchey, 9050 Broadway Terrace, Oakland, Calif. 94611
- Dr. F. G. A. Shenton, 148 Percy Road, Whitton, Twickenham, Middlesex TW 2-6JG, England
- Mr. Joseph Singer, 2572 Traymore Rd. University Heights, Ohio 44118
- Mr. Jerry Trainello, R.F.D. #1 Cross River Rd. Bedford, N.Y. 10506
- Mr. Michael V. Vetree, Jr., 42 Warren St. Melrose, Mass. 02170
- Mr. R. H. Vogel, 30008 E. Broadway, Logansport, Indiana 46947
- Mr. Dick Wagner, 427 So. Rammer, Arlington Heights, Illinois 60004
- Mr. Richard Warburton, Northwest Organ Svc. 17043 -8th N.E., Seattle, Wash. 98155
- Mr. John L. Winch, 50 Alder St. Portland, Maine 04101
- Mr. William C. Wolfred, 1440 W. Michaels Road, Tipp City, Ohio 45371
- Mr. Stuart H. Young, 312 Shady Brook Drive, S.E., Huntsville, Alabama 35801

Telechron Program Clock-by Warren Telechron Co. Ashland, Mass.  
 Model #1664  
 Dial 11" diameter  
 Case- golden oak-excellent condition- 17½" wide x 9½" deep x 45½" high

TRADE OR CASH:  
 Interested in Banjo clocks, Howard clocks, or just movements for same.  
 George D. Jensen, P.O. Box 6126, Providence, R.I. 02904

WANTED:  
 Warren Mystery Clock  
 Dr. Harry A. Knauff, 4801 Linwood, Kansas City, Missouri

An Apology

We wish to apologize to Mr. Arthur Mitchell for not asking his permission  
 to publish his bibliography of the electrical clocks in the MODEL

ELECTRICAL HOROLOGY SOCIETY OF THE N.A.W.C.C.

NEWSLETTER #5

4-24-73

Hello fellow enthusiasts:

Since the publication of the last Newsletter our Society has grown by 13 more members and we can actually boast of 56 people interested in electrical horology. While I have received many letters from various people there is a dearth of written material to be published. I am afraid that a member cannot just sit back and think the other fellow is going to do the work while his entire obligation is to pay a \$3.00 dues fee. I cannot possibly carry the responsibility of writing technical articles by myself. I think it would be a loss to all of us if I have to go to my library and lift out sections of books just to fill space. I would like to hear from you regarding interesting clocks you have found, unusual mechanisms, restoration hints, and any anecdotes which you find interesting and would like to share with the rest of the Society. I, for one, would welcome this type of material and I am sure it would be well received by the membership.

We have received at cost from Mr. Mitchell 50 copies of his entire bibliography he so kindly prepared and it is enclosed with this Newsletter.

The Mart is fairly well utilized in this letter although there is room for more. I would also like to include a larger Question and Answer section, so keep those questions coming.

Regarding our formation as a separate chapter in the N.A.W.C.C.--- we will have to petition the National Association with a minimum of 25 signatures of active members. If this is the wish of the Society, let me know and I shall take further action.

This will be the last Newsletter before the Convention in Pittsburgh. All of us who will be there should make an effort to contact each other upon arrival. This can be done through the Manager at the hotel and I am sure we will have no problem in securing a room in which to meet. All of us who will be in Pittsburgh should make every effort to bring those electrical items which they wish to "part with" as well as those they cannot repair. Active trading and selling is anticipated. Also problem repairs may be solved at that time (miracles do happen).

I am looking forward to meeting as many people as possible and will sign off for now.

Electromagnetically yours,  
Marty Feldman

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New members since the last Newsletter:

- Mr. Jerry Fast, 14 W. Oak St. Algonquin, Illinois 60102
- Mr. John Matlock, Caldwell Industries, Box 170, Luling, Texas 78648
- Mr. Henry Fried, 69-53 - 130th St. Fresh Meadows, L.I., 11365
- Mr. K. C. Denney, 3819 East 55th St. Tulsa, Oklahoma 74125
- Mr. Peter De Angelo, 7 Stonchurst Drive, Tenafly, N. J. 07670
- Mr. Joseph J. Kowalski, C.N.W., 118 Newman St. Metuchen, N.J. 08840
- Mr. James H. Coulson, 7015 Gainesborough Drive, Knoxville, Tenn. 37919

Mr. Charles Roth, 2 Circle Lane, Roslyn, N.Y. 11577  
 Mr. Louis Auerbach, 152-13 Roosevelt Avenue, Flushing, N.Y. 11354  
 Mr. Jack Miller, 114 Walnut Lane, Ancient Oak, Macungie, Penn. 18062  
 Mr. Jack Clough, Jr., 17 Greenway Road, S. Glens Falls, N.Y. 12801  
 Mr. Ben Wacek, 165 East 64th Street, N. Y. 10021  
 Mr. Allen Hendry, Windy Ghoul, Beaver, Pa. 15009

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 HELP---if anyone has access to an addressograph machine and is willing to make up a batch of address labels at no charge to the Society, this would be most welcome. If this is not available, I would like to order 1000 name labels per member at a cost of \$1.00 additional per member. If there are no positive replys to the addressograph request and if there are no strenuous objections to the \$1.00 surcharge, I will proceed. In any case, you will know by the next Newsletter. (Ed.)

\*\*\*WHEN WRITING A MEMBER FOR INFORMATION OR ADVICE, ALWAYS INCLUDE A STAMPED-SELF-ADDRESSED ENVELOPE AS A COURTESY. LETTERS REQUIRING A REPLY FROM OVERSEAS SHOULD HAVE AN INTERNATIONAL REPLY COUPON ENCLOSED (purchased at Post Office)\*\*\*

\*\*\*\*\*GENERAL INFORMATION\*\*\*\*\*

From: Maxine and Bruce Levy:

"I hereby nominate Martin C. Feldman as first and charter President of the ELECTRICAL HOROLOGY SOCIETY of the NAWCC--(his unstinting service in forming and singlehandedly maintaining this group in its inception calls for unanimous approval of this nomination. I call for a formal request that this group become an official auxiliary of the NAWCC or even an organization in its own name. If this occurs, I suggest an immediate action to proceed with by-laws of same. I suggest a questionnaire be devised to ascertain the electrical clocks owned by members. Also, a meeting of our group is wanted--any ideas?

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From: Frank A. DeWitt:

"I work for SIMPLEX TIME RECORDER CO., so I am acquainted with some Simplex and some IBM and International clocks. (International Time Recorder was one of the companies that merged to form IBM so all clocks made by these three and those that say INTERNATIONAL are of the same heritage.) I have some information on these clocks and can help with repair information, specifications, age, etc...."

QUESTION: "I have a Stromberg Model 40, minute impulse master clock (no correction) 60 beat dead beat escapement, number on movement 6780-M. The bottom end of the wooden pendulum was broken off before I got it. I would like to get any information on what the body looked like and where I can get one. Also, any information on the age of the clock, etc.--thank you."

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\*\*\*\*\*TECHNICAL SECTION\*\*\*\*\*

From: Dick Warburton:

"ON COIL REPAIRING"

Many of us that play with clocks that have a coil of some kind soon learn that a simple "coil" can be a real pain in the neck when it shorts out or opens. In my chosen field, which is the care and feeding of the Mighty King of Instruments-or the pipe organ as it is called-we are plagued with open coils all the time. The small pipe organ will have from 200 to 2000 coils in it. They are all small and operate on about 14 volts. Some of them are 45 to 50 years old and they give us trouble from time to time. Sometimes they can be replaced but when we run into an odd one on an organ 50 years old, we must repair it. Immediate need precludes waiting for a replacement and some people want to keep the organ "all original". This can pose a problem.

We find most coils open up due to the inside wire getting broken off or the wire simply being eaten away from the sweat left on it by the person that wound it 50 years before. To repair coils we proceed as follows:

We place a small piece of dowel in the lathe, or a drill will do also as all you need to do is to turn it and to be able to control the starting and stopping. Next remove whatever covering is on the outside of the coil, if any, and with a small piece of tape secure the end of the wire on the dowel, Next put a bolt in the threaded opening on the pole-piece of your coil to make a "handle" so that it may be held. A word of caution---do not use a nail and allow the pole-piece to just spin on the nail as this can ruin the threads and make it really difficult to put it back from where it came.

Set up two candles in a rack so as to allow the wire coming off your magnet to run over the first candle and then under the second. Lastly cut a small groove in a third candle and hold it in your hand to use as a guide to control the wire as it runs off onto the dowel. Once set up as described you can start it all turning. If the wire is broken off at the far end, you must run it all off in order to get a new end out where you can use it. If it is a break in the wire you will simply run out of wire when you get to the break. If it is a short in the magnet you will be building up a layer of wax with the candles as you unwind it.

On a break in the wire in the coil someplace: When you get to the ends of the wires they are to be scraped clean for about 1". Next twist them together a few times and solder the connection. It is nice if you can spray the connection with varnish if you have it, although other sealants will do. Next put the pole-piece in your "winder" and wind up the wire so as to have the splice about to wind onto the coil and with the wire at one extreme side of the coil. Now cut a piece of newspaper the same width as the coil. Hand wind it and the splice on the coil at the same time. Wind at an angle so that the splice will start on one side of the coil and end up on the other side when it is all wound on. When winding the splice and newspaper together, leave enough newspaper to make one more full revolution after the splice is on. Then merely wind on all the rest of the wire and you should have a good coil again. If you have a "short", the wax will generally cover it if you follow the method described using the "over-and-under candle method." One asset of this method is that you will never make the mistake of using the wrong thickness wire or the wrong number of turns.

There are many coils wound like this in pipe organs in the Pacific Northwest and they never seem to give me any trouble. My own pipe organ has at least ten where we just ran the wire off over the wax and back on over wax. The electromagnet works just as good as it did in 1924 when the old girl was new. Spraying the completed coil with a good varnish will hold the wire in place. In my experience this is better than taping as I found that most of the tapes used for wire covering tended to get sticky and came off after a few years.

(Ed. note: While we, as clock collectors, may have to rewind one or two coils per year so that taking several hours in doing one properly would not be considered too burdensome. But, when you are in business, time is measured in dollars and cents, thus Dick's methods being "tried and true" would be a valuable addition to one's horological armamentarium.)

\*\*\*ANNOUNCEMENT\*\*\*

Commencing with the next issue of the Newsletter, minimum of \$2.00 per Mart insertion of 6 lines & \$1.00 for next 3 lines must be charged to defray expenses. Inflation has caught up with us too!!!

\*\*\*\*\*MART\*\*\*\*\*

Only electrical horological items will be accepted for the Mart

**FOR SALE:** The Crystal Clock, 11 pages, 10 figures---\$2.00 postpaid  
**WANTED:** Details of any clock made by Alexander Bain which is in a member's collection. Charles Aked, 54 Swan Rd. West Drayton, Middlesex, UB7 7JZ, ENGLAND

**FOR SALE:** Eureka in steeple case -----\$400.  
**WANTED:** Clocks by Brille, Bentley, Warren & Riefler: catalogs to buy or Xerox Alan Marx, 14 Michael Drive, Scarsdale, New York

**FOR SALE:** Eureka clock- 4 sides and top made of beveled glass -balance wheel behind dial--runs well--\$400.00. Jack Miller, 114 Walnut Lane, Anct. Oak, Macungie, Pa 18062

**WANTED:** Books to borrow (for a fee) on electrical horology. Further information on the "Scott" electrical clock, ca. 1854-60 (one at NAWCC Hdqtrs. and the other in the clock museum of Wesley Hallet in Newport, N.H.--Bruce Levy, 3 Saul Place, Plainview, N.Y. 11803

**FOR TRADE OR SALE:** Stromberg Model S7, 10 volt slave, 18" dial, special quiet design for hospital, etc. Has no click or ratchet. Pat. date, 1915. Also International 3-wire 24 volt slave, square wood case-1940 style CG 561-2. Will trade for other slaves or sell. F.A. Dewitt, 7369 East Main Street, Lima, N.Y. 14485

**FOR SALE:** Military timer with five separate readout dials--(4) for sec. & (1) for minutes. Sealed unit operates electrically. Aprox. 6" x 4" x 4"---\$35.00 packing free-postage collect. Martin Feldman, 1545 Rhineland Ave. Bronx, N.Y. 10461

**WANTED:** Synchronome slaves--complete or otherwise--condition and price in 1st letter. Alan Marx, 14 Michael Drive, Scarsdale, New York

**WANTED:** An early electrical table--mantle clock under a dome. Prefer clocks made prior to 1920, and other than a Bulle clock which I have already. Allen Hendry, Windy Ghaul, Beaver, Pa. 15009



The "Model Engineer" first appeared in January, 1898 and publication continues at the present time. During this period articles on electric clocks, mainly of a constructional nature, have been included at irregular intervals, the first full details of how to make an electrically maintained pendulum clock appearing as early as June, 1901.

The following list covers the periods January, 1898 - June, 1902 and January, 1924 - December, 1970. Each of the 2,300 issues has been examined and only those articles etc. which contain significant information have been included. Issues published during the remaining period, not being readily available, as yet have not been examined.

How to Make Electric Pendulums and Clocks			E. F. Terrey
Vol. IV	No. 50	1 June, 1901	pp. 245-247
" "	no. 51	15 June,	pp. 267-268
Simply-Made Electric Clock			
Vol. VI	No. 67	15 February, 1902	pp. 74-75
The "ME" Electric Clock (Solenoid Type)			Douglas Stant
Vol. 53	No. 1273	17 September, 1925	pp. 370-371
The Functioning of the Synchronome Time Transmitter			Letter w. Keylock
Vol. 56	No. 1350	24 March, 1927	p. 287
" "	No. 1353	14 April, 1927	p.359 Letter A. T. Daines
" "	No. 1353	14 April	p. 359 Letter J. H. Lavell
The "Eureka" Electric Clock			Letter Edward L. Goodmay
Vol. 56	No. 1353	14 April, 1927	p. 359
Electric Clock Contacts			Letter Fred Puzey
Vol. 60	No. 1444	10 January, 1929	p. 42
Electric Chiming and Striking Clocks			F. Bocker
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" "	No. 1497	16 January	pp. 64-65
" "	No. 1499	30 January	pp. 107-111
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Long-pull Silent and Effective Electro-Magnets			F. B.
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 The New Timekeeper in Luton Town Hall T. R. Robinson  
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 Work of Mr. A. Rickard Taylor. Geo. Gentry  
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How to make an Electric Clock R. Barnard Way  
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Electric Auto-Wind for Grandfather Clock H. Lloyd  
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A Synchronous Clock Motor Geo. Gentry  
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A Synchronous Electric Clock J. W. Pattison  
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Improved Electric Chimes H. Stocker Harris  
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A Half-minute Impulse Clock Movement C. R. Jones  
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A Positive Ratchet-feed for Electric Clocks

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An Electric Clock with a Semi-free Balance

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A permanent magnet Electric Clock  
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Electrifying a Grandfather clock  
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Electrical Striking Gear  
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Battery-driven Pendulums. Experiments in the design of Hipp type electric  
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The Clock that was "Years Ahead of its Time"  
 The Eureka was the first battery-driven domestic clock in the world.  
 B. S. T. Wallace  
 Vol. 117 No. 2938 12 September, 1957 pp. 364-366, 390

The Eureka Clock  
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The M.E. Jubilee Electric Clock. An entirely new design for a one second  
 pendulum impulse clock, specially suited to amateur construction.  
 Edgar T. Westbury  
 Vol. 118 No. 2971 1 May, 1958 pp. 569-572  
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A Case for the M.E. Jubilee Clock  
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Bulle Clock (coil details)  
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Synchronome Clock (Gravity arm adjustment) Letter Geo. H. Upsom

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Magnet for electric clock (making bar magnet)

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Clock in Canada

Vol. 124 No. 3120 27 April, 1961 Letter Fred Massey p. 533

Jubilee Clock

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Eureka Clock

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Electric Clock Magnet (remagnetising Bulle magnet)

Vol. 125 No. 3130 6 July, 1961 Queries p. 28

Improving the Jubilee Clock

Vol. 126 No. 3163 22 February, 1962 J. H. Wilding pp. 234-237

" " No. 3165 8 March, 1962 pp. 291-293

" " No. 3167 22 March, 1962 pp. 358-360

" " No. 3175 17 May, 1962 Letter p. 630

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Gearless Clock Movement. A novel design that evolved as a consequence to modifying the Jubilee J. H. Wilding

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" " No. 3279 15 August pp. 613-615

" " No. 3279 " " Letter p. 622

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" " No. 3283 15 October pp. 752-754

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Striking a Bell electrically

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Froment Electric Clock

Vol. 132 No. 3291 18 February, 1966 J. R. L. Orange pp. 176-178

" " No. 3293 4 March pp. 210-211

" " No. 3293 18 March pp. 254-256

" " No. 3296 6 May Letter p. 425

Electric Clocks

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Another Froment Clock

Vol. 133 No. 3329 15 September, 1967 J. R. L. Orange pp. 917-918

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" " No. 3331 20 October Letter L. F. J. Kirkby p. 1032

" " No. 3335 15 December Letter J. R. L. Orange p. 1240

Making an Electric Time Transmitter and Dial Mechanism Charles Blazdell

Vol. 134 No. 3342 5 April, 1968 pp. 329-331

" " No. 3343 19 April pp. 381-384

" " No. 3344 3 May pp. 439-441

" " No. 3352 6 September pp. 846-848

Hipp Clock

Vol. 134 No. 3342 5 April, 1968 Letter C. J. Brooks p. 358

"Hipp" Electric Clock

Vol. 136 No. 3403 16 October, 1970 J. A. Radford pp. 1002-1005

" " No. 3404 6 November pp. 1073-1076



July 1973

Hello fellow enthusiasts:

This Newsletter comes to you following closely on the heels of #5 not because we have an overwhelming amount of material to present, but because a strong desire has been voiced by the membership to petition the national office for a charter as a new chapter. Thus a petition form is enclosed with this Newsletter and I would appreciate it very much having them filled out as soon as possible and sent back to me. We need 25 signatures of members in good standing in the NAWCC for us to begin the process of becoming a new chapter. Our chapter would be similar to the "Old Timers" chapter in that all our members are dispersed throughout this country and abroad. By becoming a chapter our organization, which now functions on an informal basis and as a one-man operation, would have the benefit of becoming a permanent group thus ensuring the fulfillment of one of our objectives, namely the preservation and study of all aspects dealing with electrical horology. The latter is, I feel, the most important contribution we as individuals and as a group can make for future generations of horologists both amateur and otherwise. While we started out as a group of people interested in early electrical clocks, we have now been put in a position, by circumstance, of preserving and bringing to the fore a segment of horology which has heretofore been ignored or at best neglected. Our membership in the EHS now numbering 64 very enthusiastic men (no women-why?) indicates to me a strong desire in the direction of our objectives. A very significant aspect of electrical horology is the hunting, finding, and restoring of electrical clocks. While the academic interest may not be primary for some of our membership, the collection and restoration certainly is of great interest to the majority. Some of us have become interested in these clocks because they were fairly plentiful and not very expensive. Unfortunately, the last statement is no longer true. As we all know finding electrical clocks is difficult at best and one which is inexpensive is quite the exception at this time. But, clocks which have been ignored by collectors and dealers before are now making their way out of storage, junk boxes, and woodwork because it has become profitable for those people selling these clocks. An even broader profit far surpassing monetary considerations is also realized; that is as stated earlier in this editorial---the preservation of electrical timepieces. With regard to research and such, I am presently engaged in making available to the national office copies of various patents, brochures, etc. dealing with electrical clocks. Hopefully, this will be available on a mail-order basis from our lending library if the mechanics can be worked out. At least this material will be housed at Columbia, Pa. and should be available to the membership when they visit these headquarters. At this point I would also ask the membership to contribute whatever pertinent information they have to the national office so that the research files will be growing on a continual basis. Patent copies are available from the Superintendent of Documents, Patent Office, Washington, D.C. and also from The New York Public Library, Photographic Division, Fifth Avenue & 42nd Street, New York, N.Y. 10018.

I have been asked by many people about the availability of the articles from the Model Engineer described in Mr. Mitchell's bibliography. These articles are available from The New York Public Library, Research Division--the exact details of how one may procure them should be worked out by yourselves and the library.

I wish to thank all the members who have made a contribution to our Society above and beyond the dues asked for. This has enabled us to print more material and function in a more secure manner.

An addressograph may be on the way for us so I am not going to send out for labels. We are still in need of articles as this material is quite necessary from the standpoint of pure knowledge and general interest. We are indebted to Mr. Charles Aked who contributed the very fine Synchronome article, printed in this Newsletter. While most of us do not own a Synchronome clock it is quite possible we may come across one, and having information on how to set it up would also be valuable in determining whether or not the clock is complete prior to purchase.

In closing I must say that I am somewhat disappointed in that there has been virtually no response to the MART. If this is because a \$2.00 insertion charge was asked for, then my disappointment becomes more profound.

The sale of one clock more than makes up for the price of the "ad" and any additional funds we can collect will make possible the copying of various articles and brochures to be included in future Newsletters. I hope this response will change for the better so that we will continue to be a most successful group.

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Electromagnetically yours,  
Marty Feldman

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New members since the last Newsletter:

- Mr. Frank DeWitt, 7339 East Main Street, Lima, N. Y. 14485
- Mr. Martin Klein, 67 Bayne Place, White Plains, N.Y.
- Mr. Bill Scolnik, 36 Paramus Rd. Paramus, N.J.
- Mr. Robert Sheff, 514 Krause St. Ann Arbor, Michigan 48103
- Mr. Myron Everts, Everts Jewelers, 1615 Main St. Dallas Texas 75201
- Mr. David Arons, 3083 Edgehill Rd. Cleveland Heights, Cleveland, Ohio 44118
- Mr. Walter Celli, 42 Birchwood Terrace, Nanuet, N.Y. 10954
- Mr. Leslie Wilder, 46 Fieldmere St. New Rochelle, N.Y. 10804
- Dr. Roger Malebranche, 254 Bradley Blvd. Schenectady, N.Y. 12304
- Mr. J. A. Stephens, 1026 Providence Road, Secane, Pa. 19018

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A lubricating product which also serves as an electrical conductor is on the market selling under the name of ELECTROLUBE. Mr. Jollynman of England has written this up for the Electrical Horology Group over there and he reports very favorable results in reducing arcing, contact wear, and increasing electrical conductivity. It is suggested that the oil #2CX be used as a cleaner prior to the application of the grease #2CG. The oil can also be used to lubricate fine pivots. The grease which is non-spreading should increase contact life by at least ten times according to the company. Experimental data reviewed by myself seems to bear out the company claims. At \$3.50 each for the pen dispenser of #2CX oil and container of #2CG grease, this investment seems a very small price to pay for a remarkable product. The company has furnished us with some data which is enclosed. Write directly to Mr. Jack White to order.

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TECHNICAL SECTION

Additions to the list of early electric:

- 1) Landis & Gyr, New York--Gothic shape mantle clock using A.C. or D.C. to wind a mechanical movement.
- 2) The United States Electric Clock Co., New York, maker of The Keyless Clock (trade name)--a pendulum grandfather clock movement with embossed metal dial-battery operated clock.

From: J.C.Mills, Hazlet, N.J.

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MART

FOR SALE: Bulle clock--Japanned lacquered case-movement complete, case needs some work-----\$35.00

Standard electric master clock movement, pendulum, bell ringing program system--no hands or face---works-----\$95.00

Bank alarm master control box (30" x 12" x 14" approx.) 3 ammeters, chrome bell, buzzers, relays, very high grade balance wheel movement for vault lock---in highly polished wood case with glass door-----\$115.00

Paul Ditisheim---Précision des Garde-Temps pièzo-électriques et des Pendules astronomiques ca. 1937---35pp.----Ditisheim and Chretien---Chronographe--Imprimant Electrique (ca. 1933--25pp.) both in French. Sold as a set of 2-----\$6.50 plus 32¢ postage.

Xerox copies Marty Feldman, 1545 Rhinelander Ave. Bx.N.Y. 10465

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FOR SALE: International slave clocks--dated 1939, 24 V D.C. solid copper--\$25.00 ea. Aluminum--\$15.00, add \$2.00 postage.

Jean Nicca, Jr., 1193 Via Del Carmel, Santa Maria, Calif. 93454

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FOR SALE: Wallace & Tiernan office clock--Square--working-----\$115.00

WANTED: Rieffler, Vaucanson, Warren, Bangorelectric. Any interesting book on electric clocks. A.Marx, 105 Bayeau Rd. New Rochelle, N.Y. 10804; 914-632-5986

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WANTED: Information, book references or catalog on National Self-Winding Clock Co., clocks. Will pay for printed matter or copies.

E.A. Hanff, 2344 McNary Blvd. Pittsburgh, Pa. 15235

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THE SYNCHRONOME MASTER CLOCK

by Charles Aked

Many of these electric master clocks have been made available by the demolition of old buildings in towns all up and down the country. They are excellent timekeepers and economical in operation. Their value is gaining ground amongst discerning collectors, and in fact they have reached the distinction of being sold in Sotheby's salerooms. Whilst they do not have the aesthetic appeal of an antique clock, nevertheless the Synchronome master clock is one of the best looking of all the electric master clocks produced. As with most electric clocks using a gravity arm drive to the pendulum, the noise of the gravity arm being reset is not appreciated by the majority of people, especially at night. What is music to the enthusiast may be sheer unadulterated agony to the spouse

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and dependants of the owner. So a Synchronome master clock may have to be consigned to a part of the house where its uncompromising thuds can be properly attenuated. It is relatively undemanding in regard to surroundings as long as they are reasonably clean and dry, and there is a suitable firm vertical surface upon which the clock may be mounted. The ultimate performance of the clock depends very largely on the solidity of its mounting. As instructions for Synchronome clocks are not readily available, and those issued with the clock may have been lost, the following notes may be of some assistance.

### Erection Notes

Having bought, or otherwise obtained, a Synchronome master clock, and assuming the clock to be in a sound mechanical and electrical condition, first clean the outside and inside of the case; the first to avoid soiling your hands and clothes, the second for the sake of the operating mechanism. Decide upon the fixing position of the clock and temporarily support the clock by the brass plate on the top of the case. A suitable height is with the centre of the dial at eye level. Hang the pendulum on its bracket, lightly screw down the retaining bar to prevent it slipping off, and use the pendulum as a guide to ensure that the case is truly vertical in both planes. As walls are nearly always out of plumb, it may be necessary to pack the clock case at the rear to ensure the required result. Mark the position of the fixing holes required for securing the clock case, remove the pendulum first, then the clock; and drill and plug the necessary holes. The clock may now be fixed in its permanent position on the wall.

If you are in a hurry to try out the clock, it may of course merely be stood on a firm level floor, and a battery of an output voltage approximately 4.5 - 6.0 volts connected. Most of the voltage is required for the gravity arm reset, and about 0.75 - 1.0 volt for the dial unit, the working current being approximately one third of an ampere. Do not expect good timekeeping with the case unsupported, and do not blame anyone else if the clock should get knocked over by accident.

In the course of its travels your Synchronome clock may have suffered many blows for which it was never designed. Demolition workers use primitive methods and tools, and your clock may have been removed from the wall by a shovel being placed behind it and yo-heave-ho! It will be well therefore to check the clock completely before putting into operation.

Commence the setting-up by slacking-off the wing nuts on the pendulum suspension bracket, release the clamp and turn to one side. Position the pendulum on the suspension bracket such that with the gravity arm released, the roller rests on the centre point of the slope of the impulse plane, the bottom of the pendulum being restrained so that it is not deflected from the vertical. The gathering pallet mounted on the pendulum must rest exactly with its mid-point in the plane of the count wheel, and at the centre of the space between two teeth tips. At the same time the pendulum must swing parallel to the back of the clock case. When all these adjustments are correct, tighten the wing nuts down on the clamp to secure the pendulum.

The impulse pallet on the pendulum rod must be positioned such that it just does not contact the gravity arm roller when the gravity arm is latched up. The drop of the roller on to the impulse plane must be minimal. Nor must the gathering pallet arm touch the normal, advance, and retard wire with the indicator set at normal (N). With the aid of the beat plate swing the pendulum by hand to cover an arc of 1° - 0 - 1°. The gathering pallet should just turn the count wheel. It may be necessary to adjust the gathering pallet arm to ensure that the count wheel teeth are engaged with just enough depth to turn the count wheel tooth by tooth. All these adjustments are made to ensure that all the disturbing influences occur at the centre of the pendulum swing where they cause least interference with its motion, and hence the timekeeping.

The following notes apply to a clock that has been in use for some time, or has been interfered with, and will also be of use when setting up the master clock in a new position.

Service Notes

When the arc of the pendulum varies or decreases, it is generally a sign of increasing friction at some point of the mechanism for which the application of oil to the various working points may be sufficient remedy. Do not over-oil, and make absolutely certain that no oil reaches the electrical contacts. The voltage of the battery has no effect on the arc of the pendulum as long as it is sufficient to replace the gravity arm on its latch. In other words, the gravity arm is effectively a constant force remontoire.

Should the clock be found with the pendulum stopped, it will itself indicate the cause of stoppage. If the gravity arm is in the reset position with the pendulum stopped, then the cause is excessive friction, for the impulse energy has been dissipated before the count wheel has turned through one revolution, and the initiation of the succeeding impulse could not take place.

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If the gravity arm is found resting on the pendulum pallet, it indicates an electrical fault. A battery at the end of its useful life will have given previous warning through the pendulum having to assist the gravity arm back into the latched position, and it is assumed that proper notice of this will have been taken. Assuming the battery to be correct, checking of the connections of the external circuits should speedily reveal where the fault lies.

Having ascertained the fault to be a mechanical one, commence by disconnecting the battery, or breaking the circuit at some convenient point. Brush out the case and clean as necessary before starting work on the mechanism. Leave the pendulum in situ as removing it will mean it will have to be set up again at the end of the work. Release the gravity arm from its catch, allowing the impulse roller to rest on the pendulum pallet. Take out the two bridge screws and remove the fifteen toothed count wheel, back stop, and catch. Clean these parts in the usual way, paying special attention to the acting surfaces of the count wheel teeth. Clean the bridge and backplate before pegging-out the pivot holes to remove old oil and dirt. Before reassembling, lightly oil the back pivots with good quality clock oil as they cannot be lubricated easily when the parts are assembled. Ensure the light catch spring rests in the notch on the right hand side of the catch, the catch must be on the right of the U-shaped catch piece on the gravity lever.

After disconnecting the flexible wire lead from the terminal, remove the screws from the pivot plate and take out the gravity arm. Unscrew the plate holding the steel roller and remove the roller. Clean all these parts carefully. Wipe the back plate and peg out all the pivot holes. If the contact is pitted, smooth down on a very fine carborundum stone until all traces of the damage is removed, taking very great care to preserve the correct plane and flatness of the contact. Place these parts on one side for the time being.

Next remove the gathering pallet from its pivot hole by lifting the jewelled end and then sliding the pallet assembly to the rear. Do not use excessive force on this delicate part. Clean the jewel, if it is coated with a hard deposit a little metal polish will speedily remove it.

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Clean the pallet arm also. Peg out the associated pivot hole. Replace the pallet but do not oil the pivot. Oil at this point will only cause trouble.

The gravity arm may now be replaced, oiling the back pivot before doing so. Make sure the U-catch is on the left of the catch and reconnect the flexible wire lead to its terminal.

Unhook the tail spring from the armature, disconnect the flexible wire lead from the base-plate, and after unscrewing the top plate, remove the armature. Examine the platinum tipped screw, if pitted smooth the acting surface taking care to preserve its flatness and plane. Clean all parts and peg out the pivot holes. With a fluff-free cloth slightly smeared with vaseline, wipe the electromagnet poles clean. Replace the armature in the reverse order, first oiling the back pivot.

Oil all the front pivots, (five points) but do not oil the count wheel teeth, gathering pallet jewel, or the gathering pallet arm pivot. The catch may be lightly oiled, or preferably greased. Check that all the parts are correctly re-fitted.

In the course of the preceding work it is likely that the various adjustments have been disturbed. First measure the settings, and if they are near the following figures do not bother to adjust. The gap between the soft iron armature and the top pole of the electromagnet should be 0.01 inch (0.25m.m.) when the armature is pressed inwards as far as possible by hand. Reset by means of the left hand buffer stop screw if necessary. With the armature still pressed inwards check that the gap between the contacts with the gravity arm on the catch is 0.080 inch (1.8m.m.) Reset by means of the armature contact screw after first releasing the locknut. When the adjustment is correct, tighten the locknut taking care not to disturb the setting. Allow the armature to fall back and adjust the right hand buffer screw to give an air gap between the contacts of 0.210 inch (5.4m.m.), first releasing the locknut. When correct re-tighten the locknut, taking care not to disturb the setting. The locknuts must be perfectly tight and secure or trouble will eventually arise. Next check that the armature returns smartly, if not, slightly increase the tension in the return spring at the bottom of the armature by turning the screw anticlockwise after releasing the locknut. Do not over tension, a clean return is all that is necessary, and do not forget to lock the screw by its locknut.

Examine the pendulum suspension and ensure that it is correctly fitted and that the suspension spring is in good condition and free from rust. Check that the clock case is truly vertical and well secured to the wall.

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Re-connect the battery and the pendulum should swing freely with only a very slight loss of amplitude from one impulse to the next. By displacing the pendulum just sufficient to operate the gravity arm release and observing that the amplitude gradually builds up to its normal value of approximately 3° - 0 - 3°, one can be certain the pendulum will continue to operate correctly. The gravity arm should be replaced on its catch with a quick action but not with excessive vigour which will result if too high a voltage is applied. A voltage of three to four volts for the clock plus about three quarters of a volt for each additional slave clock in the series circuit should be sufficient, but increase the voltage if the reset action is sluggish, and decrease it if the action is too lively. Excessive voltage will only damage the contacts by spark erosion.

It will be as well to examine the slave movement of the master clock indication but it is very unlikely that attention will be required or adjustment necessary. If in doubt leave well alone. When rating the clock, first give it a settling down period to obtain steady conditions, then adjust to have a slight losing rate of two or three seconds a day. Adjust to a closer rate by placing small weights on the bob rather than by the rating nut, this being calibrated to give a change of approximately thirty seconds per turn. It is neater, of course, to have a weight tray about half-way down the pendulum, and it is more effective. Stopping the pendulum to turn the rating nut causes a disturbance which may take some little time to settle before a steady rate again results, and the resulting change of rate may not even be in the correct direction. A rate of about a second or so a day is as much as one can expect from a clock whose pendulum is doing so much work in turning a count wheel and releasing the gravity arm. The weight of the massive gravity arm is some indication of the energy lost per half-minute by the pendulum as it performs these functions.

The Synchronome Company is now at Station Road, Westbury, Wiltshire. Some replacement parts may still be available, but the old service whereby one could obtain castings and parts for the construction of a Synchronome master clock was unfortunately discontinued long, long ago. Anyone considering acquiring a Synchronome master clock would be well advised to do so at the earliest opportunity as they are rising rapidly in price. The older type with the architectural design is much to be preferred from a collector's point of view as these are much rarer than the plain rectangular case. Some variants in mechanical design exist, and these are of great interest. One of the unusual features of some Synchronome clocks is the use of a fourteen pound shell from the first World War as the pendulum bob. They are unfilled of course, it is only the shell and not the case and charge. This was one of the ways in which the late Frank Hope-Jones turned swords into ploughshares, and it must be admitted that these bobs have a very attractive appearance.

A copy of a Synchronome blueprint is enclosed. Labeling of parts can be ascertained from second enclosure copy detailing functioning of mechanism.

MCF.

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Last minute additions

In order to make the different mailing zones less unequal when answering a Mart ad, may I suggest a system of silent auctions be used by the sellers. For example, if an item is advertised as selling for \$20.00 and you wish to buy it, bid the highest amount you would want to pay for this item. On the other hand, the seller should wait at least two weeks before notifying the successful buyer...Ed.

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We regret that the present funds and personnel facilities will make it impossible for us to mail the Newsletter other than first or second class mail depending upon weight.

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FOR SALE: I should have 3 or 4 Eureka's plus very fine Master clocks, some with mercury pendulums----shortly. Write your desires. Marty Feldman

\*\*\*\*\*

We have no articles by the membership to be printed in No.7 at this point. Please write articles, questions, descriptions of interesting pieces you may have, etc. All material is welcome...Ed.

\*\*\*\*\*

Next issue, No.7 will be published ad lib.

REMEMBER FILL IN THE PETITION AND MAIL IT.

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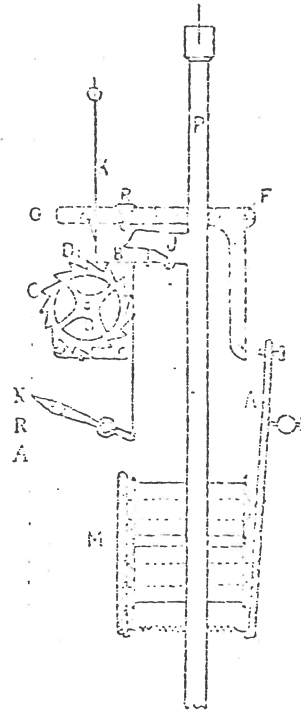
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At every half-minute the lever is let down in the act of giving an impulse to the pendulum P, upon the armature A. Current from any suitable source then passes through the series circuit of coils and the magnet M, which attracts the armature A and throws up the lever G on to its catch again.

The pendulum releases the switch by means of the fifteen-toothed wheel G which carries a vane D engaging with the catch K at each revolution. The hook B pivoted upon the pendulum P turns this wheel once every thirty seconds. At the moment of its release the little roller R on the gravity arm G is just above the curved end of the pallet J, down which it runs, giving an impulse to the pendulum at the moment when it passes through its zero or central position. Thus the pendulum is free at all times except in the middle of its swing: not only is the escapement detached, but it operates at zero, thus realizing the ideal which horologists have been aiming at for centuries.

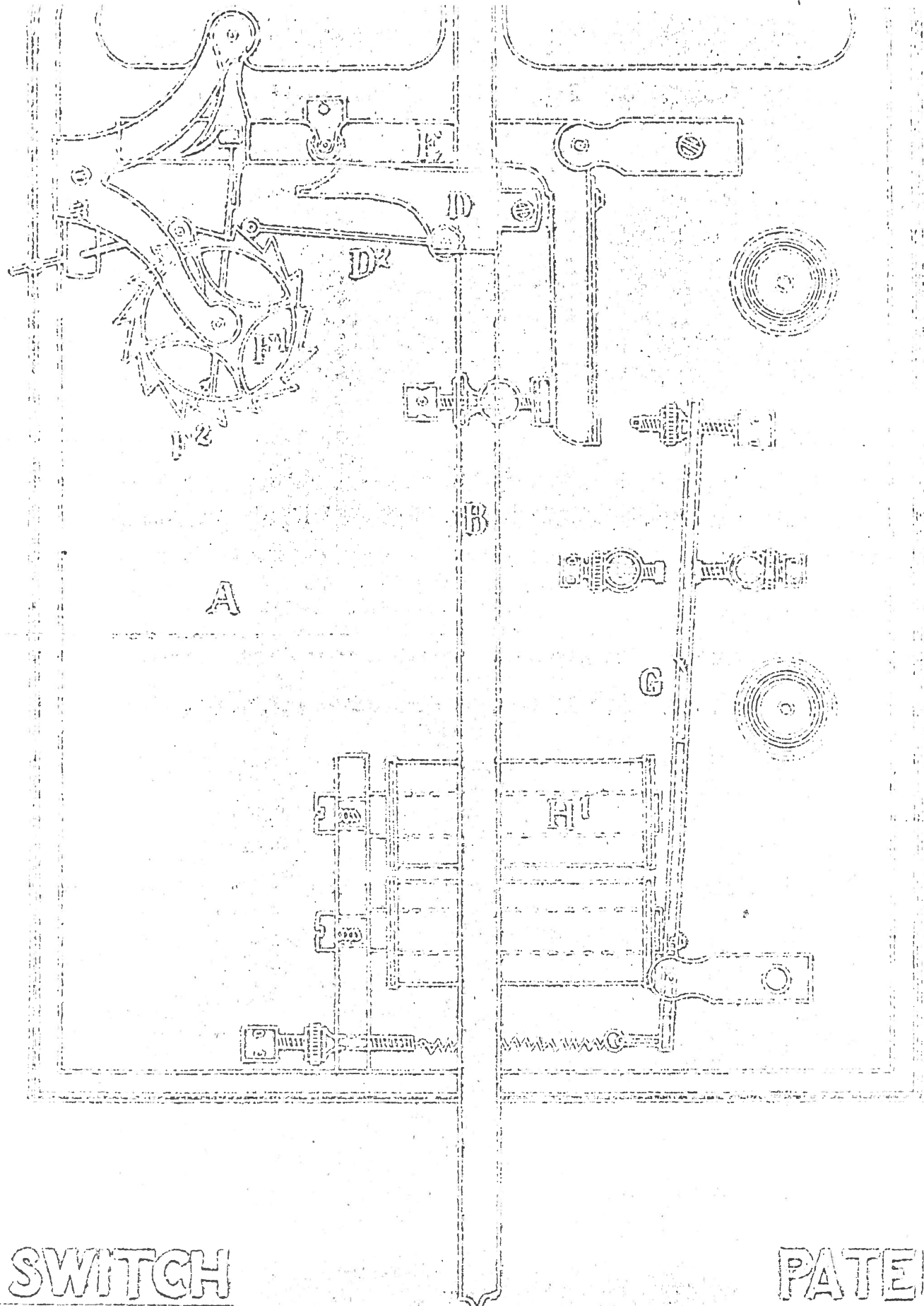


The shape of the impulse surface of the pallet J is mathematically produced to yield an impulse, beginning with extreme gentleness, increasing to a maximum at zero, and diminishing in identical ratio.

The switch cannot stop in closed circuit.

The clock can be readily set to time by merely removing the lever from Normal to Retard or Accelerate.





THE  
 ME SWITCH

PATENT

THE SYNCHRONOME GPLY  
 LONDON



- \* Lowers Contact Resistance
- \* Inhibits Arcing
- \* Removes Tarnish
- \* Protects against Corrosion
- \* Lubricates Mechanically
- \* Remains Chemically Inert
- \* Eliminates Pitting
- \* Repels Water

# **ELECTROLUBE<sup>®</sup> CONTACT TREATMENTS**

## AN INTRODUCTION TO ELECTROLUBE CONTACT TREATMENTS

The problem of cleaning and maintaining electrical contacts is one which has resulted in the marketing in this country of many chemical formulations attempting to improve the operation of switching contacts. These have been disappointing in many ways and have led to some confusion as to the important fundamentals involved in this field.

There are many chemical contact cleaners available that leave no residue. These have many advantages where cleaning is all that is required. However, with the present levels of pollution in our cities, it is often a matter of hours before the equipment has deteriorated to its previous condition.

The solution then is to clean the contacts and to leave a protective coating on the surface. Here there is an immediate problem in that most mineral lubricants and other coatings contain hydrocarbons. In respect of the original problem of removing carbon from the contacts applying treatments that may carbonize will aggravate rather than improve the situation.

The use of silicon and other additives as abrasive cleaners can also lead to damage of more delicate contact surfaces that are becoming common in more sophisticated electrical and electronic design. The insulation properties of some of these may do little in improving contact performance.

In response of these problems ELECTROLUBE has formulated a range of synthetic compounds that contain neither hydrocarbons or silicones and have characteristics that greatly improve the performance and maintainance of switching equipment. These have been perfected over the last 15 years in England and are now being utilised throughout the world.

### PROBLEMS OF ELECTRICAL CONTACT PERFORMANCE

Perfect metal-to-metal contact across total surface areas of contacting parts in electrical equipment is an ideal that is virtually never realized. This is because a physical surface is never truly flat and so perfect contact takes place at no more than three small areas.

Also working against perfect electrical contact is the rapidity with which tarnish layers form due to oxidation or sulphation, even on the cleanest surfaces. As this action continues, contact resistance rises and there is an increasing voltage drop across contacts with higher currents and excessive heating.

Arcing is a special problem associated with the dry make-and-break type of contacts. As contacts open, the sudden high resistance introduced into the circuit with an abrupt drop in current, makes a high inductive voltage appear across the gap. This causes ionization of the air in the gap and there is a momentary arc of high temperature. Heavy uncontrolled arcing can cause transfer of metal particles, with deterioration of contact surfaces. In DC operation, there is the familiar 'pip and crater' effect which can lead to complete welding together of contacts in extreme cases.

Another side effect of arcing is the formation of a corrosive film on the contacts due to electrolysis of the air and condensation of small amounts of nitric acid from the atmosphere. If there is excessive contact bounce (a condition not easily overcome by mechanical means) arcing contact problems will be aggravated.

Finally, there is the problem of mechanical wear with moving surfaces which calls for suitable treatment.

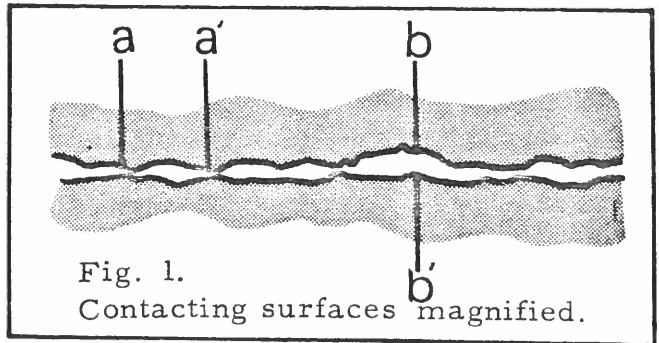
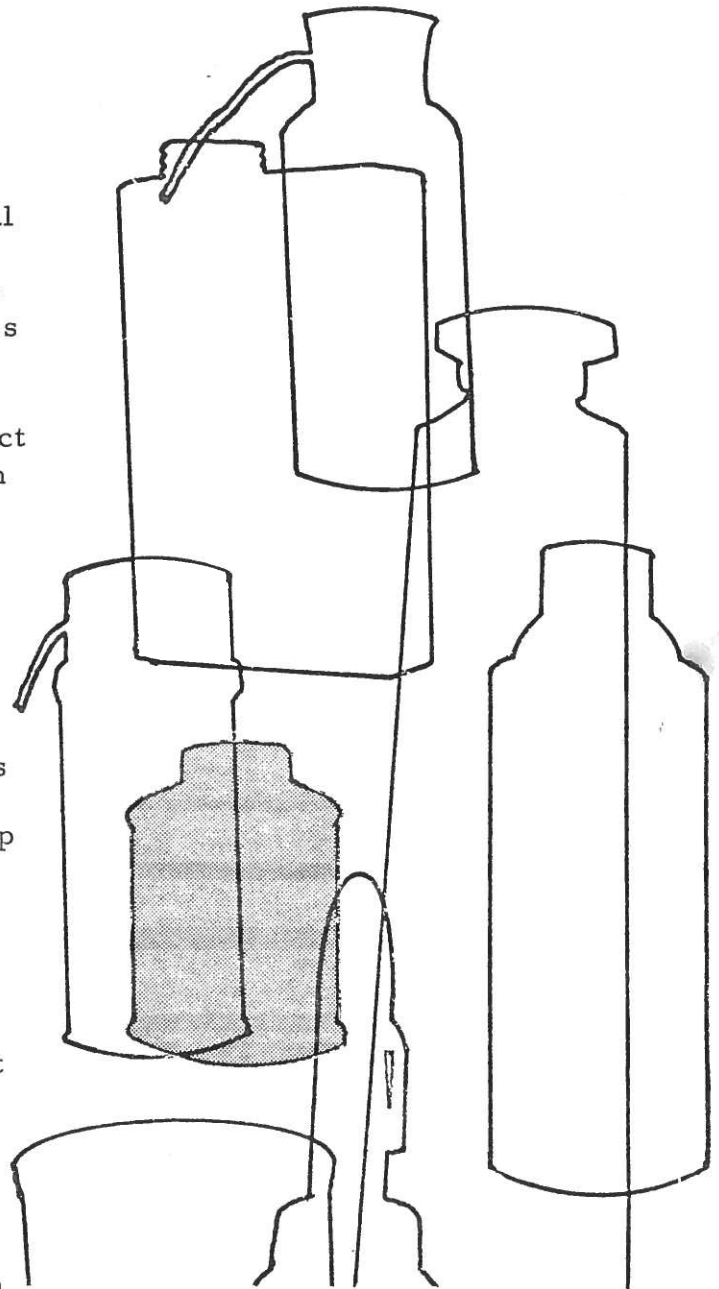


Fig. 1. Contacting surfaces magnified.



## THE NEED FOR SPECIAL CONTACT TREATMENTS

The use of a thin film of ordinary lubricating oil on clean contacts will inhibit oxidation, sulphation and corrosion for a short time. But, apart from possible drying out problems, it can become sticky and affect mechanical operation. A normal oil film is also an insulator, reducing current flow across contacts. Carbonization of oil due to arcing is another problem with conventional lubricants.

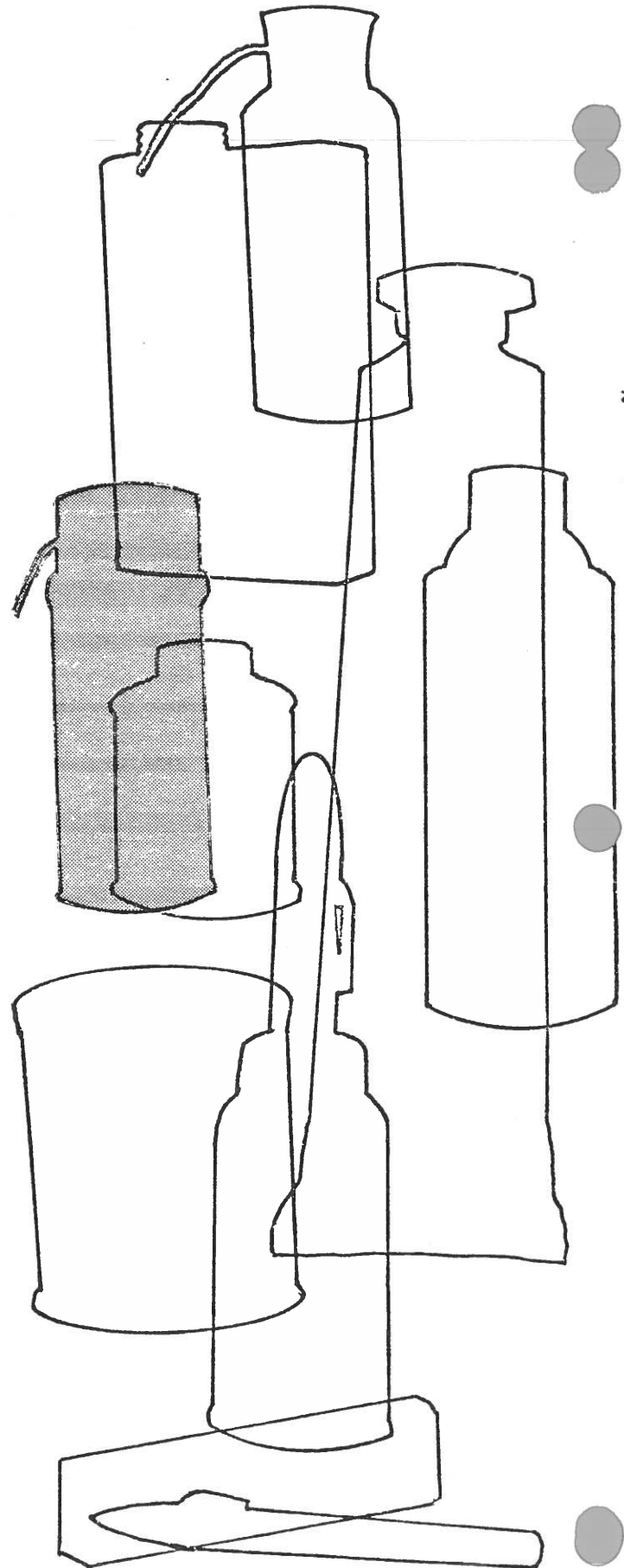
The need is for specialized treatments that will overcome the effects of arcing and reduce contact wear, inhibit, loosen and allow removal of tarnish, reduce contact resistance and generally maintain peak electrical performance. At the same time, such treatments must be long-lasting in their effects, and be easily and economical to apply.

All these and other requirements are met by the Electrolube range of electrical contact treatments - for many years internationally accepted and used for every type of contact or connection in virtually every kind of electrical and electronic equipment, domestic and industrial.

## ELECTROLUBE CONTACT LUBRICANTS- WHAT THEY ARE AND WHAT THEY DO

Electrolube contact treatments are a range of special oils and nonmelting greases. Non-hydrocarbon and silicone-free, their properties include chemical inertness, water-repellency, and a very wide operating temperature range compared to conventional animal, mineral or vegetable oils. They will not dry out in service. They are non-toxic, anti-static, and have very high flashpoints.

Electrolube treatments will penetrate and loosen tarnish films which can then be removed, and prevent their re-occurrence.





# Electrolube

THE UNIQUE ELECTRIC AND MECHANICAL LUBRICANTS

# Corporation

155 MICHAEL DRIVE, SYOSSET, NEW YORK 11791 TELEPHONE: (516) 364-1900

Syosset, New York

Dear Mr.

Electrolube is a family of Electrical contact treatments. These unique oils and greases have been developed for the maintenance of all electrical and electronic equipment. They are specially formulated synthetic organic chemicals and contain neither hydrocarbons nor silicones, and when applied to electrical contact surfaces they:

- |                                |                            |
|--------------------------------|----------------------------|
| 1. Lower contact resistance    | 6. Lubricate mechanically  |
| 2. Inhibit arcing              | 7. Remain chemically inert |
| 3. Remove tarnish              | 8. Eliminate pitting       |
| 4. Protect against corrosion   | 9. Repell water            |
| 5. Will suppress fungus growth | 10. Remain anti-static     |

The thousands of dollars that can be saved in extended equipment life, and deleted maintenance time, is limited only by your imagination and initiative.

If you have the desire to improve the quality of your product or have an electrical contact, switching or an electronic signal problem and would like our assistance in solving it, feel free to write or call for our assistance.

Sincerely,

Jack E. White  
ELECTROLUBE

JW/nm





ELECTRICAL HOROLOGY SOCIETY OF THE N.A.W.C.C.  
NEWSLETTER #7

October 1973

Hello fellow enthusiasts:

Well, we made it---we are now Chapter #78, THE ELECTRICAL HOROLOGY SOCIETY of the N.A.W.C.C. The vote was 12 for, 3 against, and 1 abstention which I believe strongly indicates a firm support of our chapter and its goals by our National Association. Becoming a chapter ensures the continuance and perpetuation of the study and collection of electrical timepieces which, as we all know, had been relegated to minor importance, until recently, as compared with other "collectibles." There is evidence that electrical timepieces may have been used prior to 1840 (Alexander Bains' clock), one certainly cannot say that an "electric" is a "modern" clock not really worth collecting as an antique. As we all know, some of the most fascinating combinations of electricity and mechanics have been "wedded" with some rather amazing horological offspring. While new clocks are turning up at the various meetings and MARTS, there has been a rise in prices for these clocks. Within the past year my own experience has been to see a \$100 (1972 price) clock suddenly command the price of \$200. Be that as it may, there is no turning back now and while prices are high on some of the more exotic electrical clocks, once you acquire one you can enjoy it, and most likely never lose any money on it if you do decide to sell some time in the future.

Aside from the collecting of clocks I must once again please request that you send me articles, anectodes, tricks-of-the-trade, etc. which I can put into future issues. Also, I would like to see the MART being utilized more. What type of technical information would you like to see in print?

We are just about out of money and I think October is as good a time as any for our fiscal year so if you can dig out the old check book and send \$3.00 without having me ask again, I would be most grateful. It costs us about \$40.00 to put out each Newsletter and with the present membership we can publish approximately six a year.

At this time I am in the hospital with a fractured hip and I will be scheduled for some further surgery later on, so if there is a lag in my answering your letters please understand it is not intentional and under the circumstances, unavoidable. I will try, however, to answer each letter although the answers may be somewhat curtailed.

It is a wonderful feeling to be the latest chapter in a fantastic organization such as the N.A.W.C.C. Our charter is being prepared for us and should be received in the near future. All the present members at this time are Charter Members of the Chapter and I think a certificate acknowledging the fact will be prepared and sent to all of us "pioneers".

Electromagnetically yours,  
Marty Feldman

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Belated congratulations to Marty Feldman on becoming a Fellow of the N.A.W.C.C.  
Bruce & Maxine Levy

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FOR SALE:

Niagara wall clock, Tiffany movement-----\$110.00  
"Poole" faces--Silvered--6" dia.-----\$2.00 each ppd.  
Jack Miller, 114 Walnut Lane, Macungie, Pa. 18062

\*\*\*\*\*

FOR SALE:

Advertising clock: Has a Silver face with Proctor & Gamble on  
the top and electric time on the bottom of the face. Operates on  
110 volts. Kodel-is name stamped on works. I believe this clock was  
made about 1920's. It is not self starting. Running condition---Best offer.  
Jerry Fast, 14 W.Oak St. Algonquin, Ill. 60102

\*\*\*\*\*

FOR SALE:

Bulle clock--japanned, hand-painted finish; mechanism all there.  
Case needs some attention-----\$85.00  
Original Bulle parts available in limited quantities. Write needs.  
Marty Feldman, 1545 Rhinelander Ave. Bz.N.Y. 10465

WANTED:

Rieffler, Vaucanson, Warren, Bangor electric. Any interesting book  
on electric clocks.  
A. Marx, 105 Bayeau Rd. New Rochelle, N.Y. 10804  
914-632-5986

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FOR SALE:

Synchrone--Mint condition--nice wall case with current adapter--  
FOB N.Y.C. -----\$375.00  
Time & Temperature (outdoor) window display clock. Needs  
some attention on temp. side--original cost \$1600.-----asking \$400.00  
Ben Wacek-165 E. 64 St. N.Y. 10021

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ELECTRICAL HOROLOGY SOCIETY OF THE N.A.W.C.C.

October 1973

- Mr. Charles Aked, 54 Swan Road, West Drayton, Middlesex UB 7 7JZ, England
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- Mr. Walter Lyle, 4560 Middle Road, Allison Park, Pa. 15101
- Mr. Alan Marx, 105 Bayeau Road, New Rochelle, N.Y. 10804
- Dr. Roger Malebranche, 254 Bradley Blvd. Schenectady, N.Y. 12304
- Mr. John Matlock, Caldwell Industries, 843 Wilshire Place, Salt Lake City, Utah 84102
- Mr. K. J. Mellaart, 30 Rietzangerlaan, The Hague, Holland

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(CONT.)

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Mr. Ben Wacek, 165 East 64 Street, New York, N.Y. 10021  
Mr. Dick Wagner, 427 So. Rammer, Arlington Heights, Ill. 60004  
Mr. Richard Warburton, Northwest Organ Svc. 17043 - 8th N.E. Seattle, Wash. 98155  
Mr. John L. Winch, 50 Alder St. Portland, Maine 04101  
Mr. Leslie N. Wilder, 46 Fieldmere St. New Rochelle, N.Y. 10804  
Mr. William C. Wolfred, 1440 W. Michaels Rd. Tipp City, Ohio 45371  
Mr. Stuart M. Young, 312 Shady Brook Drive, S.E. Huntsville, Alabama 35801  
Mr. John L. Bourquin, 5 Craig Drive, Huntington Station, L.I. 11746