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The Journal of the Electrical Horology Society

Chapter #78 National Association of Watch and Clock Collectors

- In this issue of the Journal we are able to publish the remainder of the Revere Clocks Service Manual.
- Also featured in this issue, we are bringing you Part I of the Tiffany Neverwind Repair, Instruction, and Information Chart for Style 1100 Clocks.
- Members: "We are always looking for information suitable for the Journal and greatly appreciate the loan of original material."

Inside this issue:

President's Message

Fellow Horologists:

Sorry the lateness of this issue of the "Journal of the Electrical Society." This issue was on schedule until we were struck by the dreaded blue screen of death. All difficulties with the computer are now solved and we will try again to get back on schedule.

Based on the computer problems encountered in preparing our latest Journal, this is probably not the best time to suggest that we distribute the Journal on the Internet. However, NAWCC Headquarters now has the computer power to support distribution of chapter newsletters via the Internet. Chapter costs would be radically reduced if we can avoid printing and mailing the Journal. Please let Tony or me know your thoughts on the distribution of the Journal on the Internet.

This issue of the Journal features Part II of the Revere Electric Clocks Service Manual. This information can be added to Part I of the Manual published in August 2010 so that members now have a complete Revere Service Manual. Part II of the Service Manual is complements of Rodney King who kindly supplied our editor with this information. This issue of the Journal also contains information regarding the repair and user instructions concerning the Tiffany Neverwind Clock. Particular attention should be paid to the Forward beginning on page 18 of the Journal. Evidently clocks owners have not significantly changed since 1919. This information was also provided by Rodney and our sincere thanks go out to him.

Only Slightly Off-Topic:

I have been reading a very interesting book entitled "Spring Forward" by Michael Downing. This book describes the long running difficulties concerning the adoption of Daylight Saving Time. Generally, the US Congress worked very hard to avoid taking a position regarding time (even standard time or Railroad Time) and instead suggested that the individual states make their own rules. State legislators were also wary of decisions regarding time and generally allowed individual cities and towns to establish "voluntary time rules."

As an example of the voluntary approach to time, in New York City it was left to each individual as decide what time they wished to observe. As a result, department stores and most and other retail establishments chose to adopt Day Light Saving Time while the financial district remained on Standard Time. Thus, public transportation such as busses and subways had to decide what time their riders would be using for each route. Things were so confused that in 1950, a clerk for a major airline stated that "the airline she worked for had 60 information clerks on each eight hour shift who answered an average of 8,000 telephone calls per day. Half of these calls were made by persons wanting to know what time it was in any one of several hundred cities." Things were so confused that the London Times newspaper reported that "the railways at their New York stations have added an extra hand, painted red, to their clocks to indicate the new [Day Light] time, hoping in this way to spare their least mathematically minded passengers chagrin."

This leads me to my real point. Self-Winding Clock Company clocks with the third, red hand are relatively common. Does anyone have any advertising literature that documents these clocks are the clocks described by the London Times article? If you have any information regarding the extra red hour hands, please let me know. Thank you for your help and enjoy the coming fall season.

Bill Ellison, FNAWCC President

Revere Electric Clocks Service Manual - Part II

EXPLANATION OF

Electric Five Tube FLOOR CLOCK MOVEMENT

Revere Electric Clocks Service Manual - Part II (continued)

CHIME CONTROL

See Figure 6, Page 13

The chime is controlled by the four pins, A, B, C, D on the lifting disc "E." A, B,C and D operate the first, second, third and fourth quarter chimes respectively.

These pins move the lifting lever "F" to the right, permitting the shifting lever hook H to drop over pin J on the shifting arm K. The lift should be far enough to permit $\frac{1}{32}$" clearance between the pin J and hook H *and each pin should be tested.*

Pin D operates the self-adjusting feature at the hour which will be explained later. If the lift is not enough to afford the above clearance the lifting lever F should be bent slightly to the left and, if too much, bend to right at the end that comes in contact with the lifting pins A, B, C and D.

As the lifting lever F drops off one of the pins on the lifting disc E it is pulled back almost to its original position by the small coiled spring L and since the shifting lever G has hooked the shifting arm K by its pin J, the shifting arm K is pulled with it towards the left of the movement. The lower pin M on the shifting arm K is then pulled out of the slot in the locking disc and is held out until the locking disc has turned far enough to be sure that when the shifting lever G is released the pin will not drop back again into the same slot but will rest on the circumference of the locking disc N. The shifting lever G is released by the pin S which makes one revolution for each bar (four notes) chimed and lifts the lever so that the hook H is released from the pin J. The lifting lever will then go completely back to its original position against its banking pin T. When it is in this position the hook H should rest on top of the pin J while the clock is chiming.

The shifting arm K has a double duty. It engages the chime gear arm pin U through its slot; also the lower pin M holds gear arm gear W into mesh while chiming by resting on the circumference of locking disc N. There should be slight play between the locking disc N and pin M. The locking disc turns as the chimes operate and as the slots come into position the pin M will drop and the gear W on gear arm V, is pulled out of mesh by the coiled spring X attached to it on inside of movement plate. This spring should be just strong enough to safely disengage the gear W from the center wheel Y. The lift lever spring L which pulls the chime gear arm gear W into mesh can be as strong as desired but must be strong enough to pull the chime gear W safely into mesh. If the gear arm spring X is too weak the gears will not come out of mesh and the clock will continue to chime. If the gear arm spring X is stronger than the lifting lever spring L it will resist the lifting lever spring L and pin M will not be completely pulled out of the slot in the locking disc and as the gears are in mesh the disc will turn and bind itself on pin M and the clock will stop.

Revere Electric Clocks Service Manual - Part II (continued)

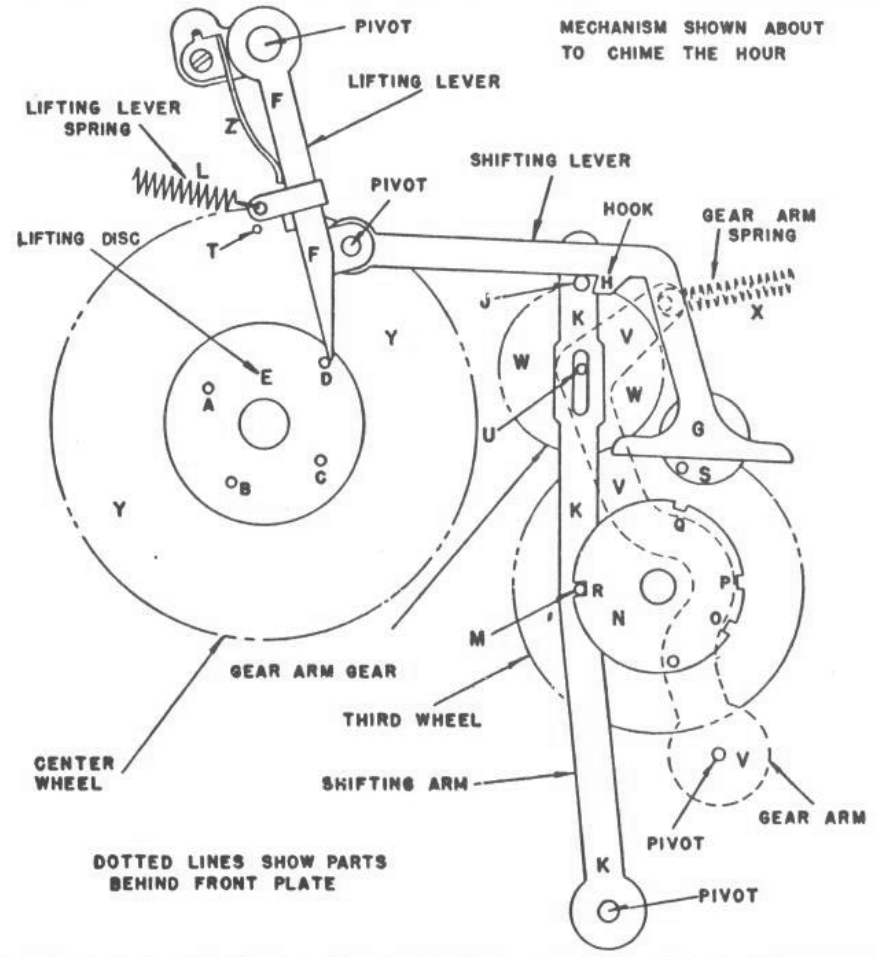


Figure 6

SELF ADJUSTING FEATURE

The locking disc N determines the proper quarters on the chimes by the distance between the slots. Three of these slots, O, P, Q, are the same depth. These three represent the first, second and third quarter chimes respectively. The fourth or deep slot R represents the hour or fourth quarter chime. When the pin M of the shifting arm K is in the slot R it takes a longer movement of the lifting lever F to disengage it from the slot than it does to disengage the pin M from slots O, P, Q. Pins A, B, C on the lifting disc will disengage the shift arm pin M from the three quarter slots O, P, Q, but will not disengage it if it is in the deep or hour slot R. The hour pin D because of its position on the lifting disc has a longer throw and is the only pin that will permit the shifting lever hook H to drop behind the pin J when pin M is in the hour or deep slot on the locking disc. This is the self-adjusting feature as the four quarter bars will only chime at the hour.

Revere Electric Clocks Service Manual - Part II (continued)

SETTING CYLINDER

See Figure 7, Page 15

To set the cylinder, loosen the set screw in the stopping disc N. Turn the disc until the pin M on the shifting lever drops into first quarter slot O. Turn the cylinder until the row of pins are found that lift hammer levers 1, 2, 3 and 4 in succession. When this row is found, place the first pin (1) in position so that it is about to strike the first hammer lever (1). The pin 1 should be about $\frac{1}{16}$" away from the hammer lever 1. With the cylinder in this position, tighten the set screw in the stopping disc N.

Newest type floor clock movements have the first pin marked. This mark is a red dot next to pin 1 on the right side of the cylinder.

HOUR CONTROL

Left Side of Movement

See Figures 8 and 9, Page 17

As the locking disc N revolves and starts on the fourth quarter chime, pin 1 raises the hour release lever 2, whose head 7 raises rack hook 3, by engaging pin 18, permitting the rack 4 to fall the correct number of teeth and the rack arm 5 to take its position on the snail 6, corresponding to the correct hour. The hour release lever head 7 holds the hour gear arm 8 out of mesh by sliding over pin 9 when the rack hook starts to leave pin 9. As the chime is ended the hour release lever 2 drops off the pin 1 in the locking disc N and permits the rack hook pin 12 to fall in the teeth of the rack 4. The hour release lever 2 is moved back to its original position by spring 11 and the hour gear arm 8 is released and the small gear 19 is pulled into mesh with center wheel Y by the coiled spring 13 attached to arm 8 and the strike begins. This spring 13 should be just strong enough to pull the gear 19 safely into mesh. The gathering pallet 14 begins to turn and makes one revolution every time the hour strikes once and its pin 15 gathers one tooth every revolution. As each tooth on the rack 4 is gathered the rack hook pin 12 drops behind it and prevents the rack from returning to its original position. After all the teeth have been gathered the rack hook 3 drops to its original position, striking hour gear pin 9, disengaging the hour gear arm wheel 19 from the center wheel. The spring 16 on the rack hook 3 should be strong enough to overcome the spring 13 on the gear arm 8 and disengage gear 19 from the center wheel Y. If the hour gear arm spring 13 is stronger than rack hook spring 16 it will be impossible for the rack hook 3 to push the gear 19 out of mesh and the strike will continue to operate.

Turn to Page 16

Revere Electric Clocks Service Manual - Part II (continued)

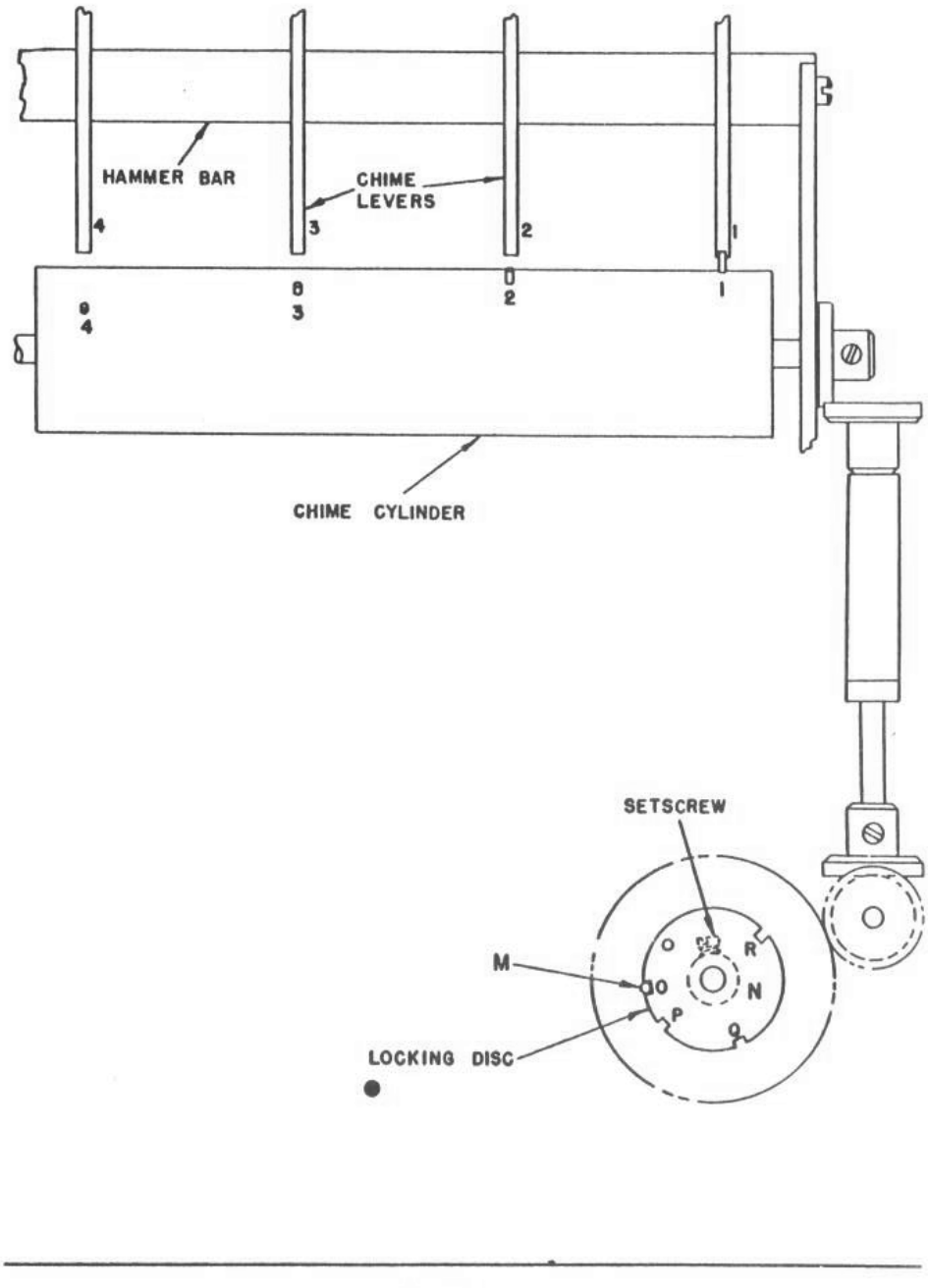


Figure 7

Revere Electric Clocks Service Manual - Part II (continued)

The rack hook pin 12 should rest in the bottom of the rack teeth when rack arm 5 is properly set to engage a step on snail 6. Adjust this when minute hand is at 12 by slightly moving rack arm 5, being careful not to loosen friction. The gathering pallet pin 15 should engage each tooth fully and toward the bottom of the tooth and gather just enough so the rack hook pin 12 safely moves over one tooth but not over two teeth. (If pin 15 hits top of tooth the movement will bind and stop.) Adjust this by slightly bending pallet pin 15 forward or backward. Both of above adjustments should be tried at 1, 3, 6, 9, 12 o'clock. You will note there are 4 teeth between rack hook pin 12 and gathering pallet pin 15.

The hour gathering pallet 14 when locked should permit the rack hook arm 17 to rest on its flat side so pin 15 is free of rack teeth. When pallet 14 is properly locked the strike shaft arm 20 should be about $\frac{1}{32}$" away or in front of the pin 21 on the pin wheel, which is to lift it next. If shaft arm 20 is not set correctly, the pallet 14 should be pulled off of its shaft and reset. In operation, the hammers should fall first and then the pallet should gather. If the pallet 14 does not lock on the flat, the pin 15 should be bent slightly towards the center of pallet 14 to give the pallet more time to lock.

Revere Electric Clocks Service Manual - Part II (continued)

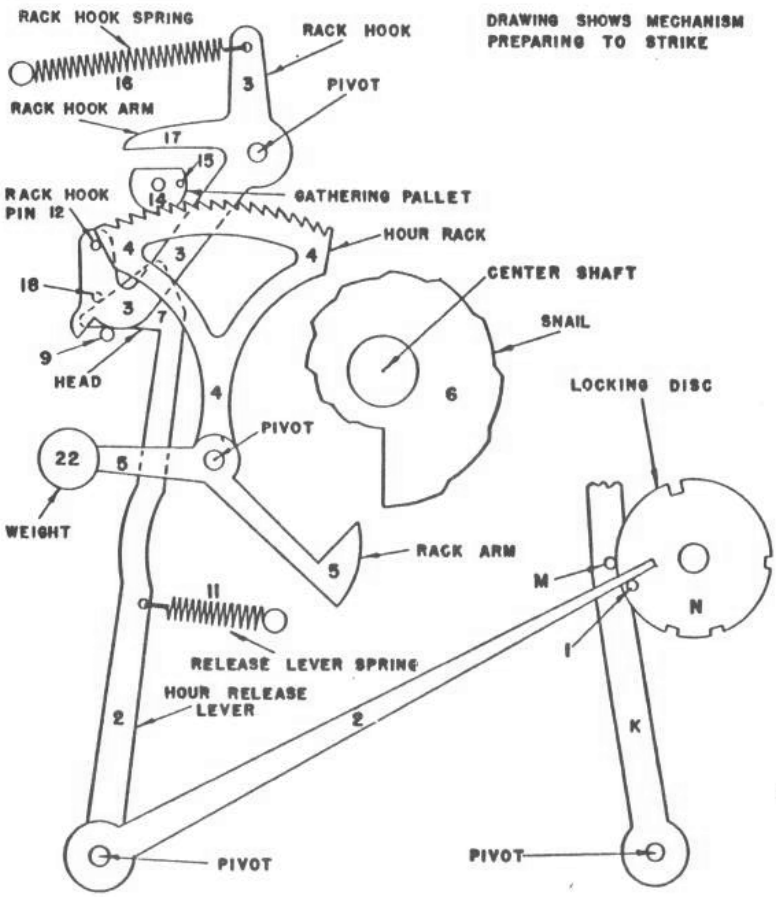


Figure 8

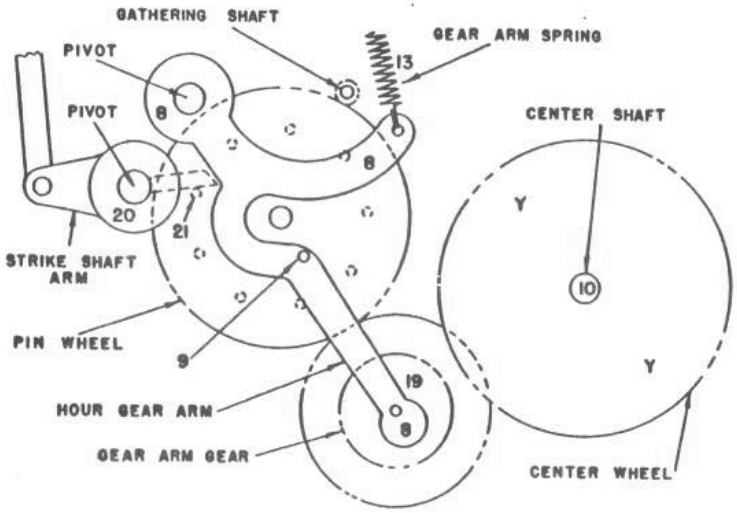


Figure 9

THESE PARTS ARE IMMEDIATELY BEHIND FRONT PLATE. COMPARE GATHERING SHAFT AND CENTER SHAFT POSITIONS

Revere Electric Clocks Service Manual - Part II (continued)

IF CLOCK FAILS TO CHIME

See Figure 8, Page 17

1. Lifting lever F may not throw over far enough to let shifting lever hook H drop behind pin J in shifting arm K. Bend lifting lever F slightly to the left at the end where it comes in contact with the lifting pins. Each pin should be tested.
2. Lifting lever spring L may be broken or too weak and will not pull gear arm gear W into mesh. The lifting lever spring L should be strong enough to overcome the spring X on the gear arm V. Cut one or two coils to make spring L stronger or replace with new spring.
3. Chime gathering pallet pin S may not be set correctly. Pin should be at bottom with slack taken up when pin M is in one of the slots in locking disc N.
4. Cylinder drive gear on side of movement may be loose on the cylinder shaft. Tighten the set screw that is on the bushing of the cylinder drive gear and then reset cylinder. See Figure 7, Page 15.
5. The meshing of the chime gear arm gear W with center wheel Y should be about ⅔ of the tooth so they will not bind. This is controlled by the slotted ex-center behind shifting arm K.

IF CLOCK CONTINUES TO CHIME

1. Cylinder may not be set correctly. See Figure 7, Page 15.
2. Gear arm spring X may be too weak to pull gear arm V out of mesh. Strengthen spring by cutting off two or three coils. See Figure 6, Page 13.
3. Gathering pallet S may be loose on shaft and won't release shifting lever hook H. Reset with pin to bottom and tighten pallet by driving it on its shaft. See Figure 6, Page 13.

IF CLOCK STOPS ON CHIME

1. Lifting lever spring L may not be strong enough to overcome gear arm spring X to pull pin M completely out of its slot in the locking disc N. The teeth may be slightly in mesh and the disc N will turn, locking the pin M against the slot in disc N. Strengthen lever spring L by cutting off a coil or two. See Figure 6, Page 13.
2. Rotor unit may be weak. Unit must be replaced. See Figure 1, Page 3.
3. Chime hammer may be adjusted too strong. See Paragraph "Testing The Chimes," Page 23.

Revere Electric Clocks Service Manual - Part II (continued)

IF CLOCK FAILS TO STRIKE

See Figure 9, Page 17

1. The meshing of the hour arm gear 19 with center wheel Y should be about ⅔ of the tooth, so they will not bind. This is controlled by the slotted ex-center behind hour release lever head 7.

2. Hour release lever spring 11 may be too weak to return lever to its original position. Strengthen spring by cutting off a coil or two or replace.

3. Hour release lever 2 may fail to raise rack hook 3 high enough to let rack 4 fall. Correct this by bending hour release lever 2 at point it contacts pin 1.

4. Rack may fail to drop. (a) The hour gathering pallet pin 15 may not be set correctly, resting in teeth keeping rack 4 from dropping. Reset hour gathering pallet 14. (b) Strike shaft pin 20 may be resting on pin 21 which load backs up gathering pallet pin 15 into rack teeth when rack is ready to fall. Reset.

5. Gear arm spring 13, may be too weak to pull gear arm gear 19 into mesh with center wheel Y. Strengthen spring by cutting off two or three coils or replace.

IF CLOCK CONTINUES TO STRIKE

See Figure 8, Page 17

1. Hour rack hook spring 16 may be too weak to disengage the gear arm gear 19 from center wheel Y. Strengthen spring 16 or replace.

2. Hour gathering pallet 14 may be loose on its shaft and won't gather the rack teeth. Reset.

IF CLOCK STOPS ON STRIKE

1. Hour rack 4 may not be set correctly and gathering pallet pin 15 may be hitting on top of the teeth. Reset. See Figure 8, Page 17.

2. Rotor unit may be weak. Replace. See Figure 1, Page 3.

3. If the hands do not move or there is any variance of time, but the clock is running, tighten the friction on the minute tube by tapping the bushing on the side opposite the tube. This friction washer is behind large gear next to lifting disc E.

4. If the minute hand moves at the same speed as the second hand remove the minute tube and ream it out a little so that it spins freely but without play on the center shaft.

5. If th hour gathering pallet 14 continues jumping when hour should strike, spring 13 is not strong enough to hold gears 19 and Y in mesh. Strengthen spring by cutting off two or three coils, so it will safely pull gear arm gear 19 into mesh with center wheel. There also may be a bind between the two gears on the gear arms. Bend arm slightly towards front plate to give more play between gears.

Revere Electric Clocks Service Manual - Part II (continued)

HOW TO ADJUST
FLOOR CLOCK PENDULUM

1. Friction of star wheel should be very slight. The friction spring controls this friction with the collar that screws on bushing. After the required friction is established fasten collar with the small set screw.

2. Each point of star (five points) should have a polished surface.

3. The steel flange on pendulum fork should have a heavy friction although it should be possible to move it.

4. When pendulum is swinging each point of star should come in contact with the steel flange on fork about $\frac{1}{32}$" from end of steel flange. If higher than $\frac{1}{32}$" pendulum will have longer swing and may stop if star hits too high.

5. When each point of starwheel comes in contact with steel flange on fork, it will be noticed, if friction is correct, that the star wheel will back up slightly before releasing.

6. If it is necessary to move steel flange, hold fork with one hand and with the other force the flange until proper stroke is secured.

7. If adjustments are correct, pendulum will swing about three inches across the case.

8. Newer model clocks have a pendulum operating stud instead of steel flange shown in Figure B. The pendulum in this case must be adjusted by the beat adjusting disc located on the pendulum rod which controls how far up on the operating stud the star wheel teeth will hit.

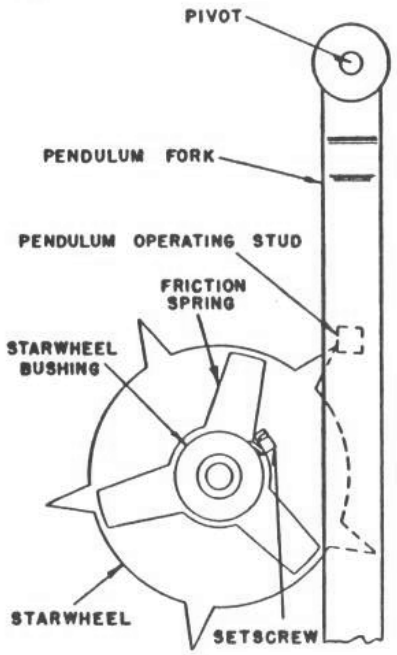


Figure A
NEWER MODELS

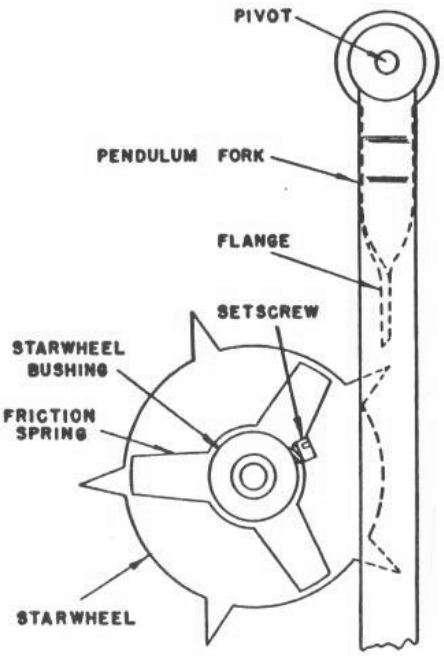


Figure B
OLDER MODELS

Revere Electric Clocks Service Manual - Part II (continued)

Setting Up Directions for FLOOR CLOCKS

Revere Electric Clocks Service Manual - Part II (continued)

UNPACKING THE CASE

Each clock is packed in four packages consisting of 2 wooden boxes and two cartons — all packages for the same clock bear the same serial number as $\frac{436}{2345}$. The greatest care should be taken in removing the clock case from the packing box. First, the nails that hold the braces in place should be carefully removed before attempting to release them from their fastenings. Damage to the case is chiefly due to careless removing of the braces. Keys for doors are wrapped in package tacked on center brace. Look carefully for case ornaments.

REMOVING TOP OF CASE

Place the clock case near the location selected for it. If the case has a removable hood, take it off to simplify installation of the movement. If the case, so to speak, is a one-piece case, remove cloth frame from back of case and the top or roof, with or without the front moulding attached. This gives free access to the space to be occupied by the movement and for inserting tubes and attaching electric cord.

PLACING MOVEMENT

The Revere Telechron Motored Tubular Chime Movement will run only on 110 volt, 60 cycle, alternating current circuits and should be connected to a circuit which is constantly alive. Make sure that there is no switch that is likely to be opened so as to deprive it of current. Movement is marked with name of case. Remove cardboard from behind hammer springs. After removing 4 screws in bottom of seat board place the movement in position on the brackets and fasten the screws in the holes provided for them. Loosen screws in terminal block at back of movement and attach ends of electric cord.

The thin cords that are attached to the hammers on the rack should have sufficient slack to allow the hammers to be ⅛" from the bell when at rest. The dial should not be removed for this or subsequent assembling.

Revere Electric Clocks Service Manual - Part II (continued)

HANGING TUBULAR BELLS

Assort the five tubular bells. They are labeled in sets with the name of the case. Each set is tuned in harmony to a predetermined pitch and may vary, even if only slightly, from other sets. Hang the bells on the racks provided for them, beginning with the shortest bell at the right and ending with the longest one at the left of the rack as you face the clock. Hang them in the order of their length and stretch the cord well over the two (2) round head pins, and in such a manner that the knot comes above the center of the bell. Each bell should then be directly behind a hammer. The cord should not touch the bells except at the points where it passes through. Each bell should hang perfectly perpendicular to avoid striking each other when vibrating while chiming. This can be done by pulling the knot one way or the other. The chime tubes are very accurately tuned in sets and then numbered at the top side of the tube. Hour tube has no number but has a tag. NOTE: — It is more convenient to put the tubes into the case if the cloth back frame is removed.

LEVEL CLOCK

The clock should stand firmly on the floor and should be perfectly level in both directions, from left to right, and front to back, using large spirit level to prove it. This is necessary for proper operation of pendulum.

TESTING THE CHIMES

The clock is now in position to test the chimes. After turning on the current move the minute hand forward till it passes the next quarter and it will begin to chime. If any of the bells produce a tone too loud or too weak, adjust the hammer springs either closer to the bell, which produces a louder tone, or away from the bell, which will weaken the tone. Use our patented adjusting thumb nut, which greatly simplifies the adjustment of the springs. *CAUTION*: — Do *not adjust springs for too loud a tone as this will produce a harsh thud and will strain the mechanism and very possibly stop the chime. A pleasing mellow tone is proper.*

Be sure the hammers are ⅛" from the tubes at rest.

Revere Electric Clocks Service Manual - Part II (continued)

SETTING THE HANDS

After the chimes are tested, the hands should be set to correct time by moving the minute hand forward. Chimes and hour strike will automatically adjust themselves at next hour. Chimes sometimes do not operate when adjusting.

SETTING THE MOON

Be sure the moon spring and shift lever are not wedged between the face of the moon disc and dial. The figures and lines on the moon arch do not indicate a calendar month, but do indicate a lunar or moon month, which has 29½ days. Should the moon phase not correspond with the correct age, which may be obtained by consulting an almanac or calendar, then revolve the moon disc, which is done by a slight pressure of the finger on the disc, turning to the right, and proceed until an imaginary line drawn through the center of the moon phase comes in the right position with the arch. For example, if the moon is 12 days old and the arch indicates it 20 days old, revolve the disc until the imaginary line comes in line with 12 on the arch. When the moon is once set correctly it will remain so if the clock is kept running continuously.

PENDULUM AND WEIGHTS

Pendulum and weights are placed in Revere Telechron Motored Floor Clocks to supply the authentic traditional touch always associated with grandfather clocks. Neither have any bearing on the operation of the movement. Screw the suspension spring onto the pendulum rod and hang in position. The pivots of the spring should set firmly in the slots provided for them in the bridge on back of movement. The pin attached to the brass disc should be placed in the slot in the brass fork. The frictioned revolving star wheel operates the pendulum and should contact the blue steel impulse arm about $\frac{1}{32}$" from the bottom edge when pendulum is at rest. If necessary the amount of contact can be adjusted by loosening the thumb screw holding disc and moving disc to left to secure a greater impulse or to right to secure a lesser impulse. Swing pendulum gently and the slightly frictioned star wheel will continue to operate it. Hang weight cords on hooks under movement board with cord encircling pulley.

Tiffany Never-Wind Style 1100 - Part I

REPAIR
INSTRUCTION
AND
INFORMATION
CHART
OF
STYLE 1100

The TIFFANY Never-Wind CLOCK

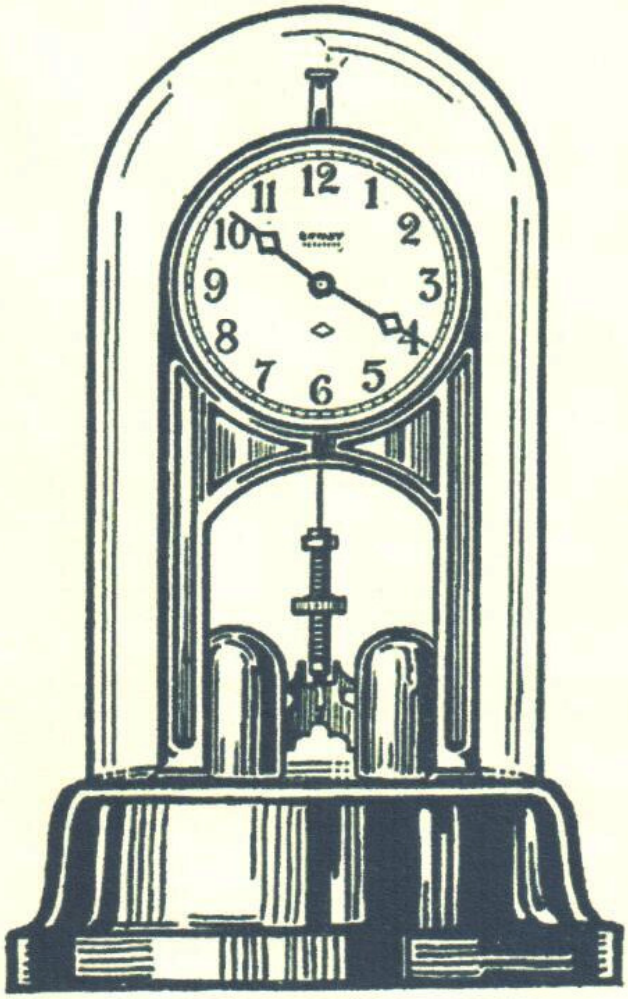
TIFFANY Never-Wind CLOCK CORPORATION

BUFFALO, N. Y.

U. S. A.

Tiffany Never-Wind Style 1100 - Part I (continued)

The TIFFANY Never-Wind CLOCK



STYLE 1100

Tiffany Never-Wind Style 1100 - Part I (continued)

FOREWORD—(Clocks in General)

Mr. Watchmaker:—

The result of your best **clock repair work** is often spoiled, after you have carefully made the repairs and set the clock up on your customer's mantelpiece, by the careless handling or moving of the clock by your customer or some one in the household.

So true is this that many of the leading jewelers in our cities have found the clock business such a nuisance and so unprofitable that they have already stopped handling clocks or else contemplate doing so.

This certainly is not to your interest or ours and there should be no more reason for selling clocks or making repairs without a good profit than for selling Automobiles, Victrolas, Typewriters and Sewing Machines. The public has got to have clocks.

If we abuse our Autos, Victrolas or Typewriters we soon learn that we not only have to pay for repairs, but learn to use these articles properly and—why not a clock?

Is it not therefore up to you, for you come in direct contact, and to us, to do all we can from now on to educate the clock buying public to properly and decently treat their clocks and to not blame you or the manufacturer for what is plainly the public's own fault.

We promise to do our part by printed matter sent with each clock and by reading matter which will have National Circulation. Won't you co-operate with us and other Clock Manufacturers to this end, for much depends upon the retailer and his watchmakers?

To further assist you in an exact knowledge of the latest—up-to-date—model of the Tiffany Never-Wind Clock now having such a large sale, we are sending you this General Information and Repair Booklet.

A careful examination of the Tiffany Never-Wind Clock will convince you that it is **the simplest clock mechanism in the world** and will show you how little there is to get out of order and how quickly and profitably repairs can be made in case of accident.

With proper treatment, the Tiffany Never-Wind Clock is guaranteed to give satisfaction and is guaranteed against defects in manufacturing.

Get a first hand knowledge of the Tiffany Never-Wind Clock and thus assist your store to make big sales and profits. The demand shows that the market for a clock you NEVER-WIND **is immense.**

The Diagram on pages 12 and 13 clearly indicates every part of the clock with its correct technical name; reference to this diagram will help you locate the part, its correct technical name and location and be useful to you particularly when reading the instruction chart following.

TIFFANY NEVER-WIND CLOCK CORPORATION
BUFFALO, N. Y.

Tiffany Never-Wind Style 1100 - Part I (continued)

TO ADJUST THE TIFFANY CLOCK

First	--	See that Magnet Coils are parallel with back plate.
Second	--	See that Armature is set parallel with ends of magnet Coils and when you hold the Armature lightly up to the right Magnet Coil, there should be space of about .002 of an inch or just so it does not touch the left Magnet Coil.
Third	--	Set the Trip Arm of Armature so that it is about 1/64 to 1/32 from the Spool Head at both ends, top and bottom.
Fourth	--	Adjust Driving Pawl and Retaining Pawl in Ratchet Wheel so that the Driving Pawl will engage just one tooth on the Ratchet Wheel. Set the Retaining Pawl so that there is very little back-play in Ratchet.
Fifth	--	As to the Torsion Wire - see that the Oscillator Pin is straight with the flat side of Torsion Wire; if not straight, bend the pin slightly to straight.
Sixth	--	Hanging Torsion Wire and Pendulum in place - Set the Brackets so that when the Interrupter is up, the Oscillator is in the hook of the Interrupter and the Interrupter Trip Arm is against the Celluloid Bushing but the Oscillator must not bottom in the Interrupter Hook. Then with the Armature up, there should be just enough space between the Armature Trip Arm and the Interrupter Trip Arm so that you can see that they do not touch each other when you do not press up the Armature so hard that the Rubber Bumper gives way or flattens out.
Seventh	--	With the Interrupter down there should be just enough space between the Armature Trip Arm and the Interrupter Trip Arm so they do not touch each other.
Eight	--	The Oscillator contact should be set in direct angle to the Interrupter and the contact should be made instantly when the pendulum passes its normal position to the right.
Ninth	--	The Oscillator should make contact with the Interrupter just above center of Interrupter Platinum.

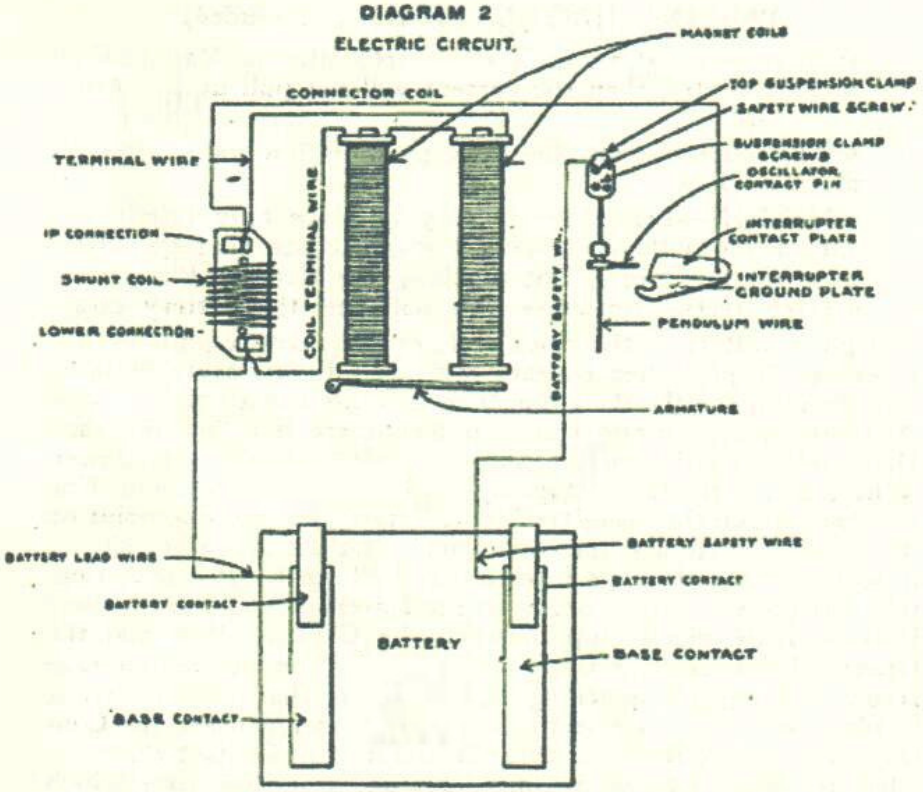
GENERAL INSTRUCTIONS

Do not change the adjustments in any way contrary to these instructions without permission from the Superintendent.

Tiffany Never-Wind Style 1100 - Part I (continued)

DIAGRAM 2

ELECTRIC CIRCUIT.



TESTING THE ELECTRIC CIRCUIT IN A NO. 1100 STYLE CLOCK

The things mentioned below rarely, if ever, happen to this clock and it is best, generally speaking, not to take down the movement until after you have looked the clock over carefully just as it is, but we give you the following information to be used if necessary:

See that the larger insulated Battery Lead Wire is in position in base of clock, that is, that it remains soldered to the center of that one of the two brass Base Contacts which has the fibre insulation. Also see that smaller, naked Battery Safety wire, remains soldered to the other brass Base Contact.

If Magnet Coils or Shunt Coil are short-circuited, they will drain or run down a battery and if this is true you will find the following:

If the Shunt Coil is open or short-circuited, then quite a spark will show where Oscillator Contact Pin meets the Contact Plate.

If either of the Magnet Coils are grounded then the Armature will stay up or freeze against the bottom of the Magnet Coils.

If Interrupter is short-circuited then the Armature would stay up or freeze against the bottom of Magnet Coils.

Tiffany Never-Wind Style 1100 - Part I (continued)

TESTING INSTRUCTIONS (Concluded)

If there is an open circuit anywhere, either in Magnet Coils or Interrupter, then the current will not pull up the Armature.

NOTE—These tests should be made with a good battery in place in clock.

CAUTION—Leave the battery in place only briefly and only while actually making tests, also see that the Oscillator Contact pin is not touching the Contact Plate while making tests; otherwise you will run the battery down.

Put good battery in the clock and see if Armature pulls up and releases (drops) when contact is made. If Armature pulls up and drops instantly then the Magnet Coils are all right, but if Armature pulls up and stays up then there is a "ground" and the trouble is either in the Magnet Coils or in the Interrupter. Where this is the case (stays up) disconnect the Connector Coil and then make the "ring test" (see below) putting one point on the Contact Plate and the other point on the frame of clock. If it does not ring, then the Interrupter is all right. If it does ring, take out the watch case screw in the Interrupter and see if there is some little metal chip between the Contact Plate and the Ground Plate causing a short-circuit. Then put watch case screw back tight in place again, being sure that fibre washer is in place and see that watch case screw does not touch the Contact Plate where it passes through the hole in Contact Plate.

Then test coils by putting one point on the inside wires which are twisted together in the center, back of and between the two Magnet Coils and the other point on the frame. If it rings then the coils are grounded. Then to find out which coil is grounded, disconnect the wires where they are twisted together between the Magnet Coils, then ring from each wire to the frame. If either one rings then that is the coil that is grounded and the only way to fix that is to put in a new Magnet Coil (be sure and send us the old coil when ordering the new coil).

TO TEST THE SHUNT COIL—find the terminal ends of the Shunt Coil and see if they are connected to the soldering lugs. There is one terminal wire to each soldering lug. If they are connected then the Shunt Coil must be all right unless there is a break inside the Shunt Coil, in which case a new Shunt Coil is needed.

RING TEST—To test the Shunt Coil fix up a pair of cords to the light circuit and have a 110 volt, 60 watt lamp in series, and touch one tip to each of the soldering lugs. In making this test the "Shunt Coil" should be disconnected from the magnets. If the Shunt Coil is O. K. the lamp will burn dim; if the coil is open there will be no light, and if the coil is short-circuited the light will burn brightly. If you cannot make all these tests yourself your neighboring electrician will be glad to help you out and explain them to you.

Electric Horology Links

Calling all Members:

If you have a link to an interesting internet site you think other members may enjoy visiting, let us know and we build a list in the Journal. Of course it should be about electric clocks or watches. Sites with information about repair and restoration tips and techniques are also encouraged.

By coincidence, our editor chose to use a photograph of Steve Jobs to highlight our information on Electrical Horology Links. Unfortunately, Steve Jobs died this past week. The concept of personal computers and the ease of use of the Internet are the result of ideas originated by Steve Jobs. We all owe a debt of gratitude to him. His contributions have changed our world. The following are a few links to get things started. We will categorize the list as it grows.

General Information Links

1) http://electric-clocks.com/
2) http://www.nawcc.org/museum/nwcm/galleries/precision/precision.htm
3) http://www.antiqueclockspriceguide.com/default.php
4) http://www.electricclockarchive.org/ClockGallery.aspx?aid=1

Telechron / Revere / GE Clock Links

1) http://revereclocks.com/index.php?p=1_9_History-of-Revere-GE-Clocks
2) http://clockhistory.com/telechron/warrenclockco/
3) http://www.clockguy.com/SiteRelated/SiteReferencePages/WarrenTelechronHistory.html

Electric Horology Links

Antiquarian Horological Society—Electrical Horology Group

1) http://www.ahsoc.demon.co.uk/ehg/electricalindex.html

Self Winding Clock

1) http://www.abbeyclock.com/western.html

2) http://www.telegraph-office.com/pages/time.html

Sangamo

1) http://www.sangamoclocks.com

MasterCrafters

1) http://www.roger-russell.com/mastrpg/mastrpg.htm

2) http://www.roger-russell.com/mastrpg/mastr2.htm

Jefferson Golden Hour

1) http://www.roger-russell.com/jeffers/jefhour.htm

Eureka Links

1) http://orlovac.eu/satovi/eureka.pdf

Mart Ads

All Mart Ads are FREE:

- Send copy to the attention of the Editor: Tony Bolek 55500 Cleveland Shelby Township, MI 48316
- Limit 3 Lines

Hard to Find Parts

BULLE Suspension assemblies, fabric type, just like originals. TIFFANY Single Contact suspensions springs (.004"). Clock Trade Enterprises (CTE), Box 264, St. Clair Shores, MI 48080; (313) 882-9380; E-mail at cteparts_1@juno.com.

For Sale

Telechron B rotors rebuilt using Telechron factory tooling, parts and paperwork. Most commonly used rotors are in stock for a quick turnaround. Also repair service offered for Telechron, GE, Revere and Hershede electric clocks. All Good Time Clock Service, 119-B Courtland St., Rockford, MI 49341; (866) 914-8463

Glass dome for the large Bulle clock. We also have glass domes for the Tiffany Never Wind, Barr, Poole, and Kundo clocks. If I don't have it in stock, I'll try to get it. Ben Bowen, PO Box 4718 Dowling Park, FL 32064; (386) 658-1167; E-mail me at www.glassdomes.com.

CD containing over 100 electric clock systems, such as ATO, Brillie, Bulle, Campiche, Eureka, Garnier, Gent, Hipp, Holden, Magneta, Poole, Scott, Shortt, Synchronome, Tiffany, Vaucanson, Wagner, Warren & many more. Price $30, includes shipping. J. E. Bosschieter; E-mail me at BoscoClocks@Zonnet.nl.

"A Guide to Electrical Horology" by Martin Swetsky, FNAWCC. A step by step book on the repair and servicing of Tiffany Never Wind, Poole & Barr, Bulle, Eureka, Synchronome, Self Winding, American Clock Co. (Chicago), Standard Electric, ATO, Sempire, NoKey, Brille, Pulsynetic, etc. Cost $42.00 Post Paid. Contact Michell Swetsky, 10 Chelsea Way, Fairport, NY 11450; E-mail me at www.SwetskyNY.net/agteh or MSwetsky@Rochester.rr.com.

Electronic "master clock" for old slave dials: $50. "Governor" makes Eureka clocks keep quartz-accurate time with no change to the clock: $95. Voltage regulators: $35 to $55. Bryan Mumford, 3933 Antone Road, Santa Barbara, CA 93110; (805) 687-5116; E-Mail www.bmumford.com.

BANGOR Electric Clock Parts, New Factory original parts ... too many to list separately. Call or e-mail with your needs. Elmer Crum; (727) 868-0181; E-mail at electrichorology@juno.com.

Tower & Street Clocks - Electric Time Company, manufacturers new tower and street clocks. Exact replacement movements for Telechron large clocks. Electric Time Company, Inc., 97 West Street, Medfield, MA, USA (508)-359-4396/800-531-2562 FAX 508/359-4482 – http://www.electrictime.com – sales@electrictime.com

I have set up a facility to rewind the coils for Kundo and Jungens moving magnet pendulums. If anyone is interested in this, contact me John R. (Jack) Seeley, FNAWCC, at jackclok@bellsouth.net. Suggestions welcome, since I have not decided on a price.

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