REPAIR
INSTRUCTION
AND
INFORMATION
CHART
OF
STYLE 1100

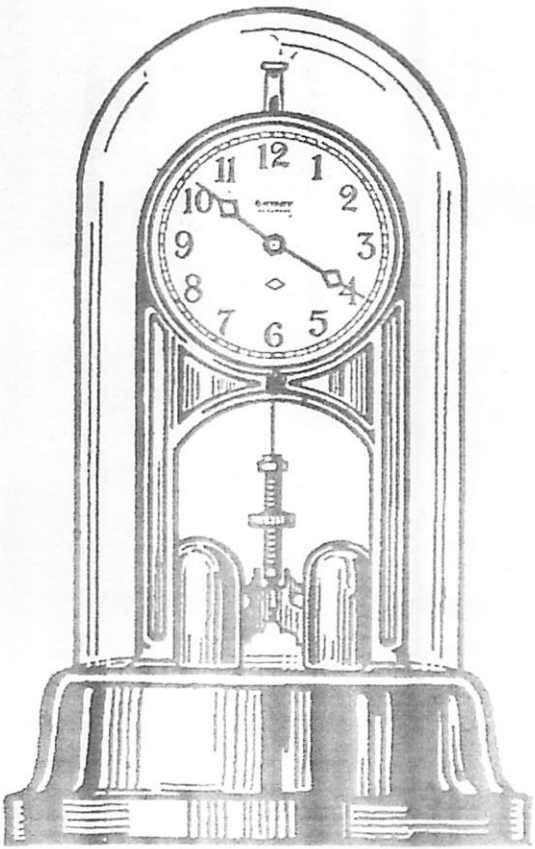
The TIFFANY Never-Wind CLOCK

TIFFANY NeverWind CLOCK CORPORATION

BUFFALO, N. Y.

U. S. A.

The TIFFANY Never-Wind CLOCK



STYLE 1100

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 its 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.

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.

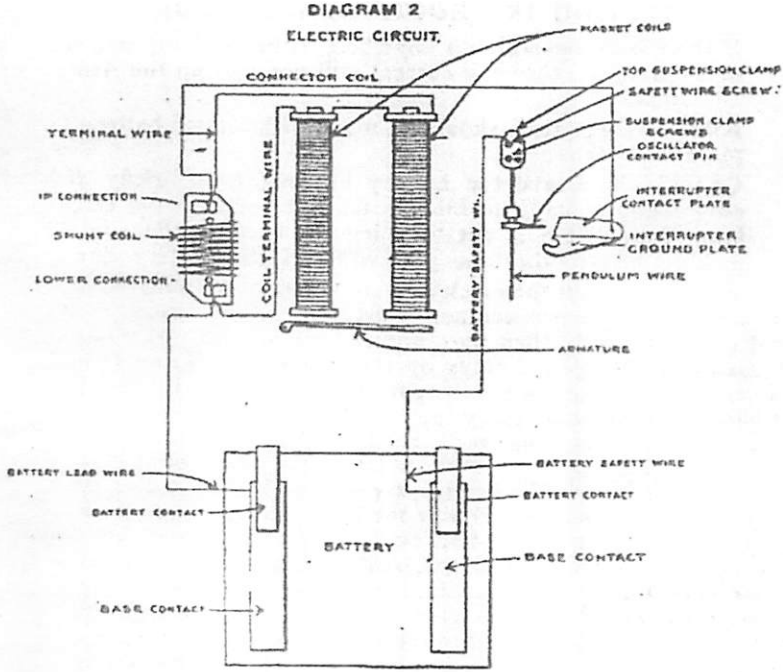
Ninth -- The Oscillator should make contact with the Interrupter just above center of Interrupter Platinum.

GENERAL INSTRUCTIONS

[illegible] adjustments in any way contrary to these instructions without permission from the Superintendent.

4

DIAGRAM 2



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.

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 bright. If you cannot make all these tests yourself your neighboring electrician will be glad to help you out and explain them to you.

REPAIR DIRECTIONS.

No. 1100 Style Movement.

IMPORTANT—The less you take this clock apart, the less likely to get out of adjustment and the less you have to put together and adjust. Most of the parts are fixed, properly adjusted and rarely have to be touched or re-adjusted. We tell you how to do it when necessary, but strongly urge your reading these directions through at least once before beginning any repair work on a Tiffany Never-Wind Clock. This is the simplest clock movement in the world, one that the watchmaker or clock repairer can readily understand and whenever repairs are necessary, due to accident or abuse, they are easily and quickly made and highly profitable. We invite you to write us on any points we can be of service to you, for watchmakers who have made a study of our simple movement, are today the Tiffany Clock's most enthusiastic friends.

Sec. 1. **OIL**—No oil of any kind should be used anywhere on the No. 1100 Tiffany Never-Wind Clock movement and if you find any oil has been used by anyone, such oil should be cleaned off. This clock is constructed to function perfectly without oil and oil is a non-conductor of electric current and spoils contacts. Not having any oil on it, the Tiffany Never-Wind Clock, through the accumulation of dust with the oil, will not get gummed up and will run for years with little or no cleaning. The use of oil in assembling is positively forbidden in our factory.

Sec. 2. The latest model Tiffany Never-Wind Clock is so constructed that the greater part of its very simple mechanism is protected by the Back-Plate, on which the movement is mounted, and the Back-Cover placed over the movement.

Sec. 3. Even in case of accident, about all that can happen is—to bend or break the Pendulum Wire, or bend the Suspension Bracket which supports the Pendulum.

Sec. 4. TO REMOVE THE BACK COVER—unscrew the screws (one on each side of the Back Cover) which fasten the Back Cover to the Back Plate, and then pulling the Back Cover out slightly at the bottom, lift it over the Suspension Bracket. This exposes the working mechanism of the clock.

THE PENDULUM (In General)

Sec. 5. **If the Pendulum Wire has a bend or kink, by putting on the Pendulum Weight and rubbing the side of an ordinary, round lead pencil against the flat side of wire that bulges, it will generally straighten out the wire and make it as good as new.**

Sec. 6. **If the Pendulum Wire has a sharp kink in it or is broken, then it needs a new wire and we can either send you a Pendulum Wire (only 25 cents), or if you will return to us the top and bottom attachments to the wire, the Regulating Screw and Nut complete with the Oscillator Nut and Contact Pin, we can then send you the complete Pendulum Wire assembly, properly spaced and adjusted so that it is the work of but a few minutes for you to insert the new wire (our charge for this service, including the new wire being but 50 cents). In any event let us know whether the pendulum is of the "hook on" (new) or "slot" (old) style (see diagrams 3, 4 and 5 on pages 9 and 11).**

Sec. 7. **Once in a while a customer may knock the Suspension Bracket to one side—see that Suspension Bracket is at right angle to the Back Plate on which the movement is mounted, so that the Pendulum Wire hangs straight down through the center of hole in the Oscillator Guide. The Oscillator Contact Pin should swing (revolve) so as first to make contact just above the center of the small platinum wire which is on the face of the Contact Plate and then, as the Armature pulls up and trips the Interrupter, this Oscillator Contact Pin on the Pendulum Wire will rest in the top of little notch just below, until the reverse motion of the Pendulum Weight swings the Oscillator Contact Pin free and allows the Contact Plate to drop into proper position to receive the next contact of the Oscillator Contact Pin.**

Sec. 8. If the Oscillator Contact Pin does not point directly at a line drawn vertically through the center of the clock movement, take a small pair of pliers and grip the Pendulum Wire just below the top and twist the Pendulum Wire so as to bring the Oscillator Contact Pin back into position. This you can often do without removing the Back Cover. The Oscillator Contact Pin should not bend down or up but point at a right angle from the Pendulum Wire and you should see that the Suspension Bracket has not been bent down or up so as to raise or lower the Oscillator Contact Pin and prevent its making contact at the proper point on the Contact Plate. If the Suspension Bracket has been so

bent, you can bend it back in place with a pair of pliers, being sure that the two screws hold the Suspension Bracket tight in place.

Sec. 9. It is just possible that once in a while you may find that some one has pulled the Pendulum Wire partly down in the Top Suspension Clamp so that it brings the Oscillator Contact Pin too low. To correct this, in the case of the New Pendulum Wire Assembly (Diagram 3, page 9) loosen slightly the three little watch screws (Suspension Clamp Screws and Safety Screw) and push Pendulum Wire up to Top Suspension Pin and hold Pendulum Wire in place and tighten three screws; and in case of Old Pendulum Wire Assembly (diagram 5, page 11) loosen the Suspension Clamp Nut and push Pendulum Wire up as far as it will go, holding Pendulum Wire in that position and tighten the Suspension Clamp Nut.

Sec. 10. If the Pendulum Wire makes clock run too fast and you can't slow it down within the regulation limits on the Regulating Screw, then rub the flat sides of the Pendulum Wire very lightly with fine Emery paper—taking off or thinning the Pendulum Wire but a very little at a time. If the Pendulum Wire makes a clock run too slow, then clip off the wire a trifle at the bottom, never more than 1/8".

Sec. 11. DOUBLE CONTACT—When a clock makes a double click or contact instead of a single, it is probably due to the fact that the Suspension Bracket has been bent down or up. You can test and correct this (see Sec. 7, page 7). Sometimes the Armature Arm needs adjusting to proper position (see diagram 6, page 12). It may be simply that the clock tips forward or backward and that setting the clock level will stop the double clicking.

THE PENDULUM (Now Used).

Sec. 12. **TO REMOVE NEW PENDULUM WIRE WITH ATTACHMENTS FROM CLOCK** (Diagram 3, Page 9)—first remove the Back Cover, then loosen Safety Screw, which is the upper one of three small watch screws in Top Suspension Clamp, and disconnect the Safety Wire under head of this screw, then remove Top Suspension Pin which runs through Suspension Bracket and Top Suspension Clamp and then carefully take the Pendulum Wire through slot in back of Oscillator Guide.

DIAGRAM 3
NEW PENDULUM WIRE ASSEMBLY

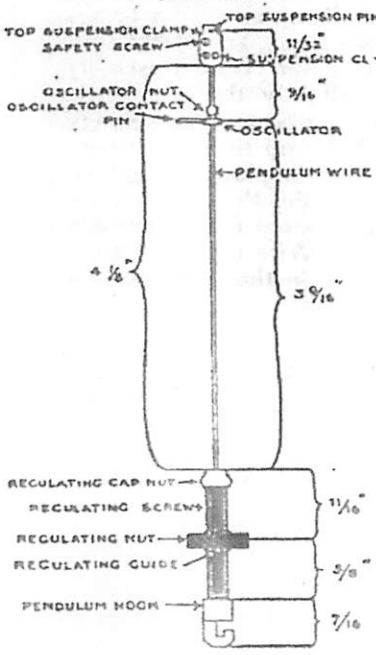
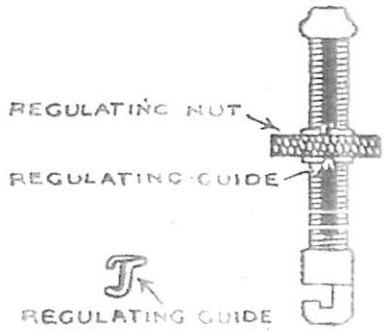


DIAGRAM 4



Sec. 13. **TO ASSEMBLE NEW PENDULUM WIRE YOURSELF** (See Diagram 3, page 9):

First—Put Regulating Nut on Regulating Screw from the top, with the "S-F" marked on Regulating Nut facing upward.

Second—Put Regulating Guide in place in Regulating Nut (see enlarged drawing—diagram 4, page 9).

Third—Put Regulating Cap Nut on top of Regulating Screw.

Fourth—Put Pendulum Wire in from the top, through the Regulating Cap Nut, the Regulating Guide and through the small hole in the bottom of the Regulating Screw.

Fifth—Insert Pendulum Wire in slotted end of Bottom Suspension Clamp (this Suspension Clamp being contained in the bottom of Regulating Screw) as far as the slot goes and then put the Bottom Suspension Clamp back into the hole in bottom of Regulating Screw and then screw the Pendulum Hook on tight.

(over)

Sixth—Have Oscillator Nut loose and push upper end of Pendulum Wire through to proper distance (as per diagram 3, page 9) and tighten Oscillator Nut.

Seventh—Loosen slightly the three little watch screws (Suspension Clamp Screws and Safety Screw) and push Pendulum Wire up to Top Suspension Pin and hold Pendulum Wire in place and tighten three screws.

NOTE—REGULATING GUIDE—In the latest model No. 1100 Style movement, the Regulating Guide is a small piece of Bronze wire bent to shape, which is located in the Regulating Nut, which travels up and down on the Pendulum Wire in the groove in Regulating Screw, as the Regulating Nut is turned up and down (see diagram 4, page 9).

Sec. 14. TO INSERT NEW PENDULUM WIRE AND ATTACHMENTS ALREADY ASSEMBLED—Pass the Pendulum Wire, at a point on the wire just below Oscillator Contact Pin, through the slot in back of Oscillator Guide, turn the Pendulum Wire around so that the Oscillator Contact Pin points toward the center of Back Plate and just to the left of the Interrupter Contact. Then put in slot of Suspension Bracket and put in Top Suspension Pin. In case of New Pendulum Wire Assembly, the Battery Safety Wire is fastened under the upper (Safety) Screw (diagram 3, page 9) and in case of Old Pendulum Wire Assembly the Battery Safety Wire is fastened under the Safety Screw diagram 5, page 11).

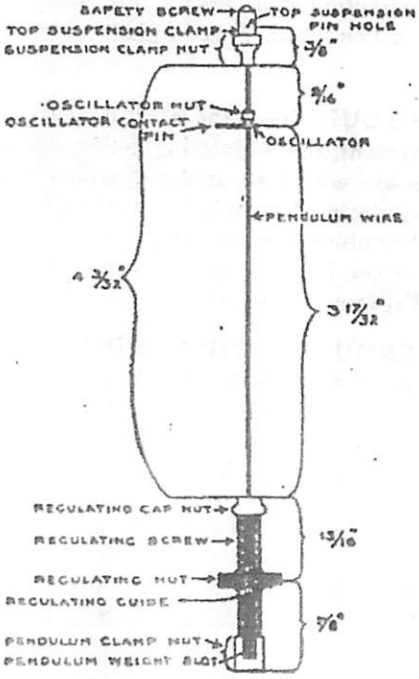
THE PENDULUM (Formerly Used)

Sec. 15. TO REMOVE OLD PENDULUM WIRE WITH ATTACHMENTS FROM CLOCK (diagram 5, page 11)—first remove the Back Cover, then loosen Safety Screw on top of Suspension Bracket and disconnect the Safety Wire just under it, then remove Top Suspension Pin which runs through the Suspension Bracket and Top Suspension Clamp and then carefully take the Pendulum Wire through slot in back of Oscillator Guide.

Sec. 16. TO ASSEMBLE OLD PENDULUM WIRE YOURSELF (see diagram 5, page 11).

DIAGRAM 6

OLD PENDULUM WIRE ASSEMBLY



First—Put Regulating Nut on Regulating Screw from the top, with the "S-F" marked on Regulating Nut, facing upward.

Second—Put Regulating Guide in place in Regulating Nut (see enlarged drawing—diagram 4, page 9).

Third—Put Regulating Cap Nut on top of Regulating Screw.

Fourth—Put Pendulum Wire in from the top, through the Regulating Cap Nut, the Regulating Guide and through the small hole in the bottom of the Regulating Screw.

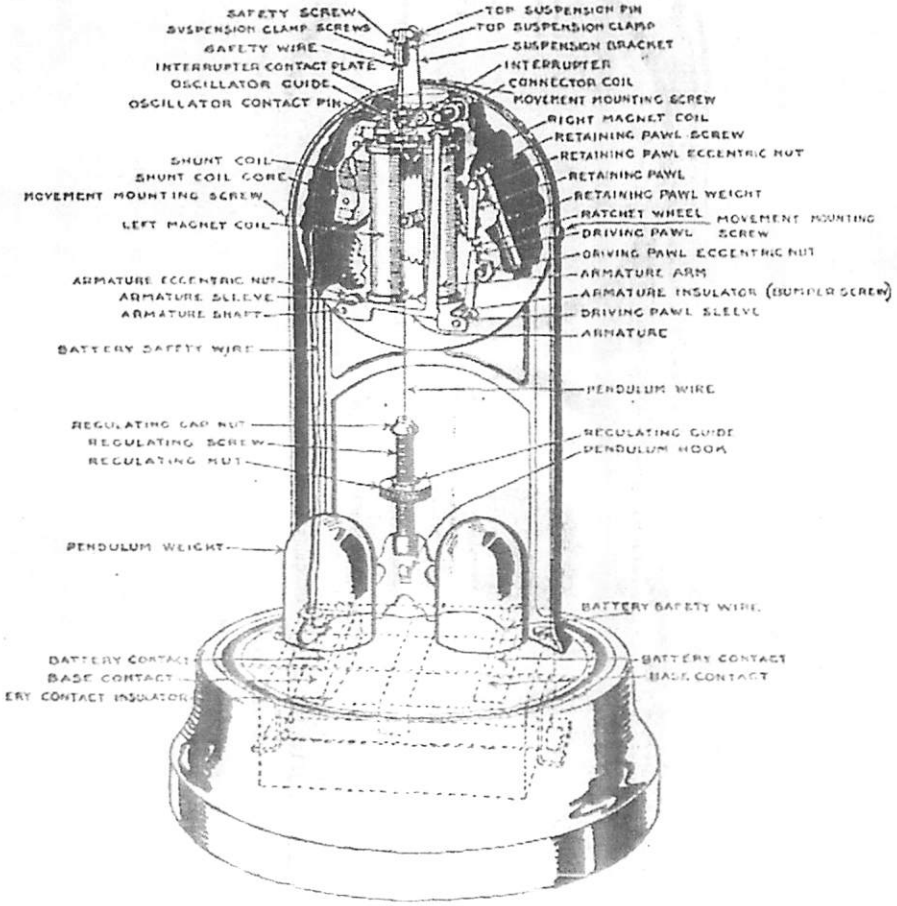
Fifth—Insert Pendulum Wire in slotted end of Bottom Suspension Clamp (this Suspension Clamp being contained in the bottotm of Regulating Screw), as far as the slot goes and then push the Bottom Suspension Clamp back into the hole in bottom of Regulating Screw and then screw the Pendulum Clamp Nut tight.

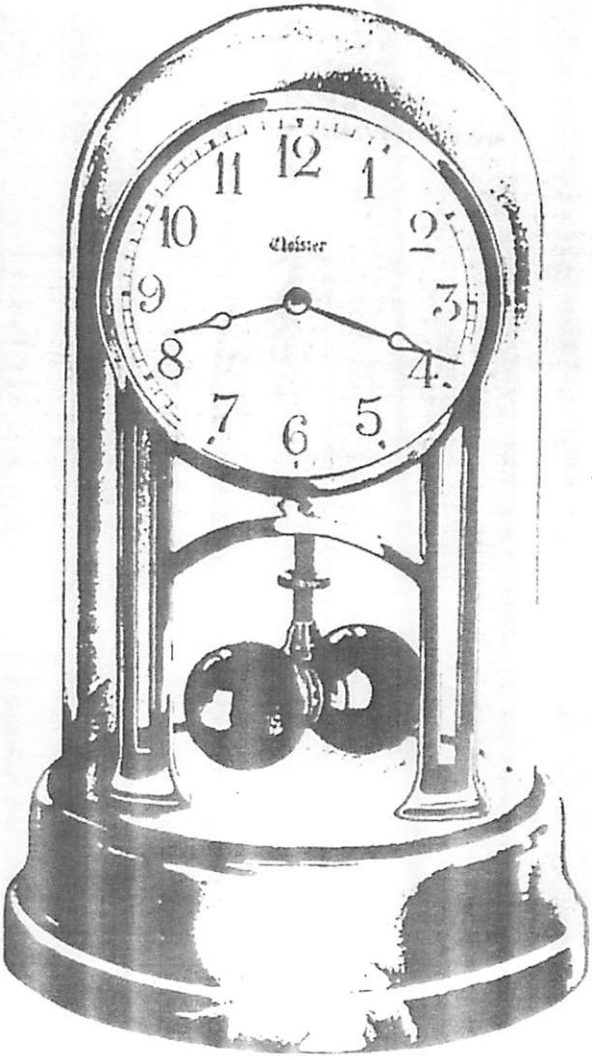
Sixth—Have Oscillator Nut loose and push upper end of wire through to proper distance (as per diagram 5, page 11) and tighten Oscillator Nut.

Seventh—Loosen slightly, the Suspension Clamp Nut and push Pendulum Wire up as far as it will go, holding Pendulum Wire in that position and tighten the Suspension Clamp Nut.

DIAGRAM 6

TIFFANY
NEVER-WIND CLOCK





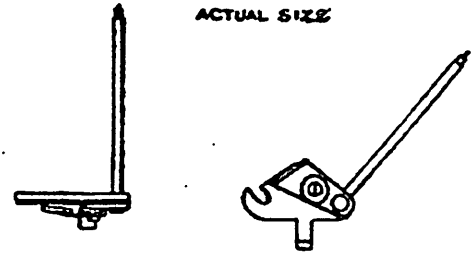
CLOISTER CLOCK
STYLE NO. 2000

DIAGRAM 7

INTERRUPTER

CROSS SECTION

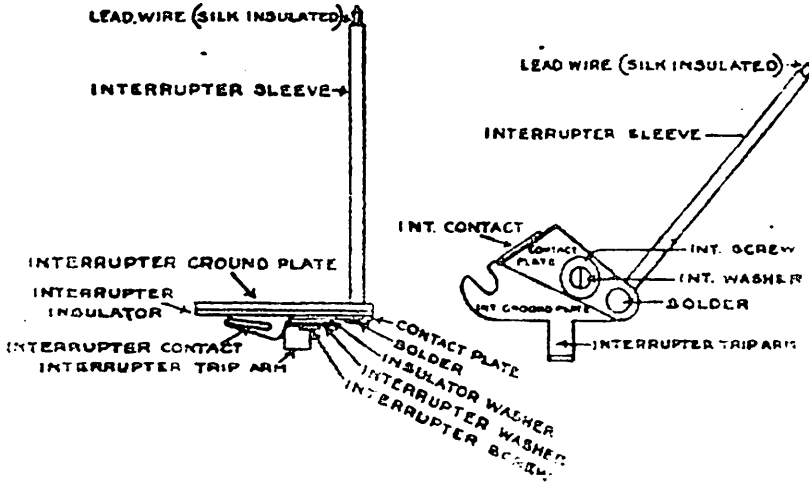
ACTUAL SIZE



FOR DETAIL - SEE INTERRUPTER ENLARGED BELOW

INTERRUPTER - (ENLARGED)

CROSS SECTION



SUSPENSION BRACKET

Sec. 17. The Suspension Bracket is used to suspend the Pendulum Wire and its proper position is covered under chapter on Pendulum Wire (pages 7-11 inclusive).

INTERRUPTER

Sec. 18. The Interrupter, which is made up of several parts, one of which is the Contact Plate, is one of the vital parts of the clock mechanism and a knowledge of its purpose and function is important in connection with the complete Pendulum and Suspension Bracket. As the Pendulum Weight revolves to the right (looking from the back of the clock), it brings the Oscillator Contact Pin on Pendulum Wire in contact with the Platinum wire (Interrupter Contact) which is on the face of the Contact Plate. When all adjustments are as they should be, this Oscillator Contact Pin first makes contact at a point just above the middle of the Platinum wire (Interrupter Contact). The electric circuit is thus closed and the electric current flows instantly into the two Magnet Coils. The two Magnet Coils then become magnetic and pull up the Armature.

TWO ACTIONS THEN TAKE PLACE:

First—The Armature trips the Interrupter, causing the Oscillator Contact Pin to slide down the Interrupter Contact until the Oscillator Contact Pin rests in the top of the little notch in the Interrupter Ground Plate. This being done instantaneously, the circuit is made and broken instantly, for the Interrupter Ground Plate is out of circuit and no current is being used while the Interrupter Contact Pin is resting in the notch on the Interrupter Ground Plate.

Second—The Driving Pawl, which is fastened to the right end of Armature, is moved upward by the action of the Armature and engages the next tooth above in the Ratchet (driving) Wheel and immediately, as the current is cut off as described just above, the Armature drops, the weight and dropping of the Armature propelling the gears and pinions of the clock movement.

Sec. 19. If the Interrupter sticks, that is, does not drop down so as to rest on Oscillator Guide Bracket when the Oscillator Contact Pin is swung away from it by the reverse motion of the Pendulum Weight, it may be that it has been jammed. Insert a knife blade and wedge slightly between Interrupter and the bearing and work the Interrupter up and down a few times. If that does not fix it, then the Connector Coil, which

is located between the dial and the back plate and which connects the shaft of the Interrupter with the upper end of Spark Coil, should be unsoldered and the Interrupter pulled out of the bearing and cleaned, as also the inside of the bearing itself. No oil should be used, just wiping with a soft cloth.

Sec. 20. **TO REMOVE INTERRUPTER WITH ATTACHED SLEEVE FROM BEARING FOR PURPOSE OF CLEANING**—After removing Back Plate, unsolder that end of Connector Coil between Back Plate and Dial which is soldered to Interrupter Lead Wire, then remove fibre washer, then friction washer and then loosen large hexagon nut enough so that Interrupter Bearing will drop out of place sufficiently to allow you to pull Interrupter and Interrupter Sleeve out of Interrupter Bearing, which will then enable you to clean inside of bearing and outside of sleeve with soft cloth, as Oil must not be used.

Sec. 21. **SPARKING AT CONTACTS**—If a clock shows a "spark" at contact point on Interrupter Contact as contact is made, it may be due to the need of re-soldering the soldering lugs on both ends of Shunt Coil. To do this re-soldering, it must be done with a heated soldering iron, but no acid should be used, but rosin dissolved in alcohol or in turpentine. If this does not stop the "sparking" then a new Shunt Coil is needed.

Sec. 22. **TO REMOVE SHUNT COIL**—Unsolder the two wires, one at either end and remove the two screws which are nearest the coil of wire.

THE ARMATURE

Sec. 23. The Armature consists of several parts and is located at the bottom of the two spool Magnet Coils. It is supported at left end on Armature Shaft, the shaft itself being embedded in the Armature Eccentric Nut and the turning of the Armature Eccentric Nut adjusts the proper spacing of the Armature below the two Magnet Coils. The right end of Armature is supported by the Driving Pawl which rests on a celluloid bushing covering the Driving Pawl Stop Pin which is embedded in the Driving Pawl Eccentric Nut. The Driving Pawl Eccentric Nut is for the purpose of adjusting the Driving Pawl.

Sec. 24. On our older No. 1100 style movements a piece of thin silk should be in place cheesed on on the top of Armature so as to come between the upper side of Armature and the soft iron bottom of the magnet cores.

the purpose of this insulating silk being to prevent the Armature freezing (sticking) to the Magnet Coils as the freezing prevents the Armature from dropping freely as it should; in our later model of No. 1100 style movement there is or should be this piece of silk on the top of the Armature under the Left Magnet Coil and under the Right Magnet Coil there is a rubber disc called the Armature Insulator, which serves the same purpose as the insulating silk and also deadens the sound.

Sec. 25. **THE ARMATURE SHAFT** is a steel pin driven into the Armature Eccentric Nut to support the Armature.

THE ARMATURE ECCENTRIC NUT is used for adjusting the space between the Armature and the two Magnet Coils.

THE ARMATURE SLEEVE is a small brass tube at left end of Armature used as a "stop collar" and is forced on the Armature Shaft; this must fit tight to the Armature Shaft.

TO REMOVE THE ARMATURE pull it straight off the Armature Shaft to which it is fastened only by friction of the Armature Sleeve.

DRIVING AND RETAINING PAWLS

Sec. 26. **THE DRIVING PAWL** is attached to the right end of the Armature and at every upward movement of the Armature, engages one tooth of the Ratchet Wheel and as the Armature drops, pulls the Ratchet Wheel down one tooth. It is the dropping of the Armature which propels the clock train.

THE DRIVING PAWL ECCENTRIC NUT is for the purpose of adjusting the Driving Pawl to the Ratchet (driving) wheel.

THE RETAINING PAWL is placed on Back Plate just above the Driving Pawl and the pressure of the Retaining Pawl Counter Weight keeps the Retaining Pawl in position between the teeth of the Ratchet Wheel and its purpose is to prevent the Ratchet Wheel from turning backward (upward) as the Driving Pawl reaches up and pulls the Ratchet Wheel down one tooth at each contact. Generally there are two full teeth in the Ratchet Wheel between the teeth in which the Driving Pawl and Retaining Pawl rest—but occasionally there may be three.

Sec. 27. **RETAINING PAWL COUNTER WEIGHT** lies between the Back Plate and Dial and is adjusted to Retaining Pawl Shaft by a small set screw, in such position that the right hand lug on Back Plate acts as a "stop" for it and this stop prevents the weight from falling on the wrong side of center when clock is tipped upside down as it often is in transit.

IN GENERAL

Sec. 28. See that Magnet Coils are not loose, if necessary tightening nut or screw which holds each Magnet Coil at the top. If Magnet Coils are loose or bent over against center shaft of clock this will cause a short-circuit and run down the battery very quickly.

Sec. 29. **TO REMOVE BACK PLATE AND DIAL**—First, unscrew small knurled nut in center of dial and wedge off clock hands. Second, remove three screws, one at top of Pedestal and one at either side of Pedestal and lift out Back Plate. The dial is held in Pedestal merely by friction.

Sec. 30. Examine the little pin on Center Shaft of the clock between the two Magnet Coils and see if the pin touches either of the two Magnet Coils as the shaft revolves. If it does, the pin should be filed off slightly —for its touching the Magnet Coils would cause a short circuit and run down the battery.

Sec. 31. Examine the clock hands and see that they do not interfere in revolving.

Sec. 32. **IN RETURNING A CLOCK TO US FOR REPAIRS** do not send the glass globe, which might get broken in transit. Wrap the Pendulum Weight separately and put inside of base of clock where the battery ordinarily is and put battery underneath base in packing box where it will not damage the clock. Use sufficiently large wooden box so that no pressure will come against head or top of clock and mark outside of box for identification.

Sec. 33. When clocks are unpacked, see that head or top of clock is not struck against some object and that each pendulum weight is used only on clock it is packed with and that you follow the other directions in order.

THE BATTERY

Sec. 34. **TO PUT IN BATTERY**—See directions sent with each clock. We decline any responsibility unless our simple "setting up" directions are followed exactly as given.

Sec. 35. **BATTERY RENEWALS**—As our earlier clocks used a larger (No. 5) battery, please specify "small three cell battery" when ordering for our No. 1100 style clocks.

Sec. 36. **BATTERY GUARANTEE**—We guarantee our standard size battery to run the style No. 1100 clock a year, the average battery life being 15 months. While we use a standard size battery, obtainable for renewals almost anywhere, as both you and we are interested in your customers having good battery service, we recommend and guarantee batteries furnished by us.

Sec. 37. **A CLOCK IS SOMETIMES STOPPED** accidentally or by some one without the owner's knowledge and the battery blamed, where very often it will run the clock for months if the clock is simply started again.

Sec. 38. **A FRESH BATTERY SHOULD TEST** about eight amperes, sometimes showing slightly less when first received in cold weather, till warmed up. A high amperage battery has not necessarily a long life and The Tiffany Never-Wind Clock requires long life rather than high amperage, in fact often will run two or three months on a battery showing no amperage on the ordinary ammeter tester. If you have not an ammeter tester, by changing the battery from a clock that does go to one that does not—you can determine whether the fault lies with the battery and if the battery shows any signs of dampness or leakage or if the battery is dead, it should be removed from the clock at once and a new battery substituted. The three battery cells should not be removed from the inner cardboard box container when inserted in the clock. When laying a battery down (except in clock) do not allow its brass contacts to come in contact with any metal, as that would short-circuit and run down the battery immediately.

Sec. 39. BATTERY TESTER (Ammeter)—A good Ammeter is made by the American Ever Ready Company of New York City, which can be bought for about $1.50 at almost any hardware or electrical store, where they will show you how to use it. When making test of battery, hold the cord contact and right leg of Ammeter on battery contacts only for a second or two, as otherwise you will be running down the battery, and if the battery does not register with the contacts applied one way, reverse the points, as different makes of Ammeters register differently.

REGULATING

Sec. 40. **THE TIFFANY NEVER-WIND CLOCK is the *only* clock in the world that does not require the pendulum to operate the clock-train. In the old-time clock the pendulum and clock train are so linked together that friction on the one or other makes its impression on the time-keeping quality. Whereas in The Tiffany Never-Wind Clock, these two functions are distinctly independent of each other, thereby insuring more accurate time keeping.**

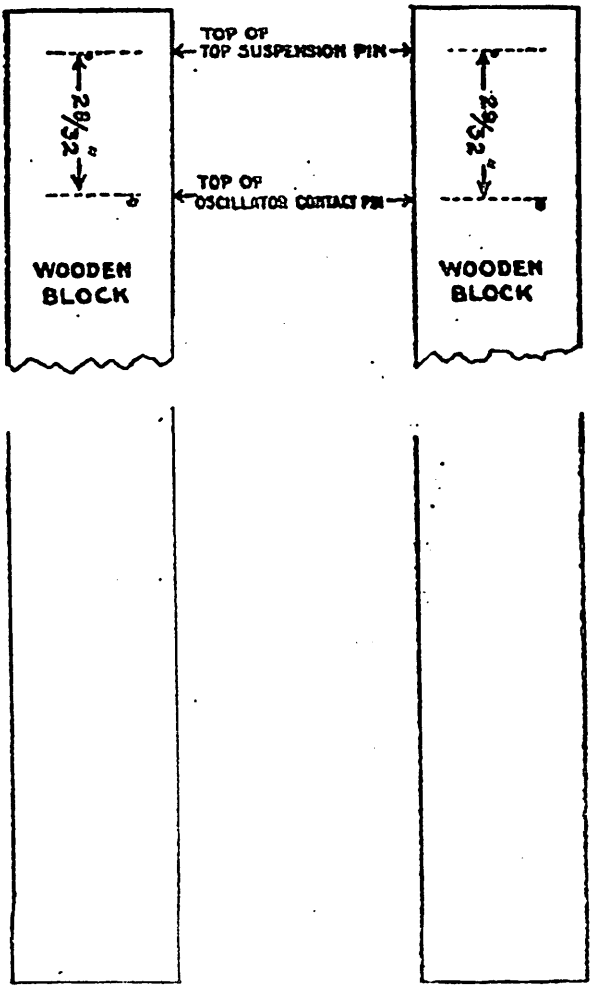
Sec. 41. **You know there is no such thing as a perfect time-piece—ours approaches nearer than any other mantel clock; yet because it never needs winding, does not imply that its hands may not require moving forward or backward once in a while and occasionally the Regulating Nut be touched. It will run within a minute a week or better—its good time-keeping being simply up to the owner.**

Sec. 42. **The Tiffany Never-Wind Clocks are regulated at our factory at level. Should further regulation be necessary, turn slightly knurled Regulating Nut, between and just above the Pendulum Weight (see indicating letters "S-F" on top of knurled nut). Turn to the right to make clock go faster and to the left to go slower. All clocks require slight re-regulating after being placed in position, and a quarter turn of the Regulating Nut makes a difference of about two minutes a day. These clocks, properly regulated, make contact every twelve seconds or five times a minute. A clock tipping forward will run fast and back slow, tipping to the left fast and to the right slow, hence the importance that it should stand level. Your customers should be shown how to set the hands and how to regulate. This will save you the trouble and loss of time calling at their homes and make the clocks "stay sold."**

Sec. 43. **IT IS WELL TO REMEMBER THAT THE NEARER LEVEL THE CLOCK STANDS THE BETTER THE TIME AND THE LESS RE-REGULATING NECESSARY.** It stands to reason, on account of the often severe and sudden changes in temperature, that a clock in the jeweler's window will not run as accurately as in the store, nor will a clock that is being moved about in demonstrating, so that you may need to set the hands forward or back occasionally in the case of the clocks that are showing in the window or demonstrating with on the show-case. The clock should not be moved about with the heavy Pendulum Weight on and each Pendulum Weight should be used only on clock it is packed with. Mixing the pendulum weights causes much unnecessary re-regulation.

DIAGRAM D

NEW PENDULUM WIRE GAUGE **OLD PENDULUM WIRE GAUGE**



Actual Size of Gauge to Assemble Pendulum Wires.

To assemble these two gauges take a simple, smooth block of wood and use two headless pins the same size diameter as the Top Suspension Pin, these pins to occupy the periods as shown in each gauge.

SALES HELPS

Important—Read Very Carefully

There is a right and a wrong way to sell the Tiffany Never-Wind Clock. Permit us to point out the right way—so that your sales may be large and ever-increasing, your customers pleased and satisfied and, your profits clean because you have no "come-backs."

The one who has trouble with this clock or does not make good sales, is the one who does not follow the directions sent with each clock, nor take the few minutes necessary to read carefully what we send him.

First.—When clocks are unpacked, see that head or top of clock is not struck against some object and that each pendulum weight is used only on clock it is packed with and that you follow the other directions in order.

Second.—You can make good sales only by having on hand at least three of these clocks—for you should have one in window displayed with window card, one for a demonstrator in your store and at least a third ready for immediate delivery to your customer.

Third.—From the experience of our jewelry customers, we know that this clock, properly leveled, running, on time and with display card in the window, not only sells many clocks, but is a splendid window attraction and draws many a new customer into the store. It is not the custom generally to have clocks displayed in the window or show cases on time—but you see this being a new clock to the public, they will invariably look to see if the time is right and if within a minute or two with their watches, be favorably impressed and themselves begin to advertise the clock by talking about it. This may seem a little matter to you, but we beg to assure you that with your kindly interest in and attention to this "on time" request of ours, your sales will grow rapidly and the whole store be benefitted thereby. You see, the public is first attracted by the clock's novelty, the window card stating that it requires no winding excites curiosity and, if the clock is on time, is impressed with its time-keeping and they then come into the store to ask questions, which is what you want. Once in the store, you have a chance to sell him or her not only the clock but other things, and this clock works wonders as a window attraction and should be kept there.

Fourth.—It stands to reason on account of the often severe and sudden changes in temperature that a clock in the window will not run as accurately as in the store, nor will a clock that is being moved about in demonstrating so that you may need to set the hands forward or back occasionally in the case of the clocks you are showing in the window or demonstrating with on the show case.

Fifth.—Always sell, advertise and refer to this clock as the Tiffany Never-Wind Clock—never as an electric clock. You see, the word electric often frightens your customers before they understand how simple the clock is, might imply the necessity of wiring or of getting a shock and thus prevent a sale.

Sixth.—A question commonly asked of you—is it a perfect time-piece—should be answered truthfully, that there is no such thing in the world, and that your customers may need to set the hands and touch the regulator once in awhile, especially when the clock is first set up, but show them how easy it is to do this by simply lifting the globe and without moving the clock. Tell them not to regulate this clock by an alarm clock, which itself is often not correct, for this clock is capable of fine regulation and timekeeping, and can be so regulated by the owner instead of bothering you to go to his or her home.

Seventh.—The Western Union Clocks are set every hour and often vary several minutes in an hour; the Government clock in Washington, D. C., is kept in a special room where the temperature, dryness, air pressure, etc., are always the same and still that clock is corrected every day; the Big Ben Clock in the tower at Westminster, London, England, is corrected every half hour electrically from Greenwich. Tell your customers these facts, it will pay you, and they will then see why not even the Tiffany Never-Wind Clock can be left entirely to itself and always be on time.

Eighth.—The Novelty and Attractiveness of the Tiffany Never-Wind Clock is such that this clock becomes, quite naturally, an object of interest and inspection by friends and family of the purchaser. While this is most excellent from a re-sale standpoint, you can readily understand that if this clock is frequently moved, the pendulum weight taken off and perhaps even the battery taken out to show a friend how the clock operates, that this would be likely to disarrange the clock, as it would any other clock in the world, and prevent its giving satisfactory time service. Consequently your customer should be informed of the above when sale is made. Properly treated, it is a fine time-keeper.

Ninth.—The battery which furnishes the motive power for this clock, is a standard dry cell, obtainable at any hardware or electrical store—but as we guarantee our batteries to run the clock a year, it is advisable to secure the batteries from us, but only for the reason of the above said guarantee, which batteries purchased in the open market do not carry.

Tenth.—A lot of the trouble and expense that all jewelers have with all makes of clocks is their own fault by allowing their customer to buy any clock expecting too much and not realizing that a clock is not a hammer but a piece of mechanism that requires decent treatment and some attention from its owner. The Tiffany Never-Wind Clocks are not new, not an experiment, but are running successfully in thousands of homes to the delight and satisfaction of their owners.

TIFFANY NEVER-WIND CLOCK CORPORATION,
BUFFALO, NEW YORK.

24