

Draper's x x x x



DRAPER'S
SELF-RECORDING
THERMOMETER.

Description and Directions.

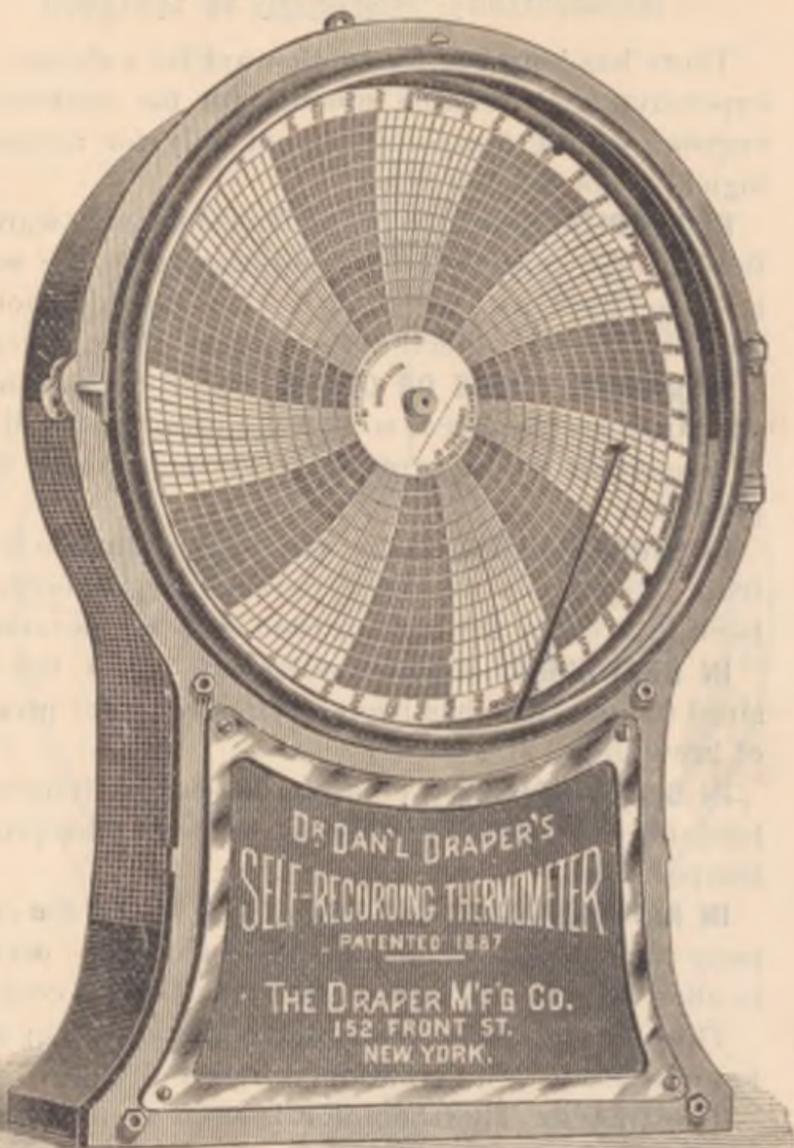
Don't Destroy.

Meyrowitz Brothers
Opticians:

Nos. 295 & 297 FOURTH AVENUE,
COR. 230 STREET,
NEW YORK.

DRAPER'S SELF-RECORDING THERMOMETER.

DESCRIPTION OF THE INSTRUMENT
AND DIRECTIONS FOR ITS USE.



SIZE 14 BY 20 INCHES.

Protected by Letters Patent in the United States, Canada, Great Britain,
France, Germany, Austria, Hungary and Belgium.

STANDARDIZED AND WARRANTED.

MANUFACTURED BY THE
DRAPER MANUFACTURING COMPANY,
152 FRONT STREET, NEW YORK CITY.

APPLICATIONS OF THE Draper Recording Thermometer.

There has long been a public want for a simple, inexpensive and reliable means, for the continuous register of the temperature, not only for meteorological purposes, but also :

IN HOSPITALS, so that physicians entering a ward in the hospital, can tell if the temperature of the ward has been kept as ordered, or if it has been too hot or too cold, thereby affecting the welfare of the patients.

IN DRYING ROOMS OR OVENS, where constant temperatures are required, so that the proprietor will see if attendants have kept them at the proper temperature.

IN STORE-HOUSES, so that the owners can see if the fruit, vegetables or other perishable property has been injured by too high or too low a temperature.

IN BREWERIES, so that brewers can tell if the desired temperature has been kept during the process of brewing.

IN GREEN-HOUSES, so that florists can see if their attendants have kept the different houses at the proper temperature.

IN REFRIGERATING RAILROAD CARS, so that the company will know at what time neglect of duty occurs, in allowing the cars to become too hot or too cold.

This Thermometer is adaptable to many other uses too numerous to be mentioned in this circular.

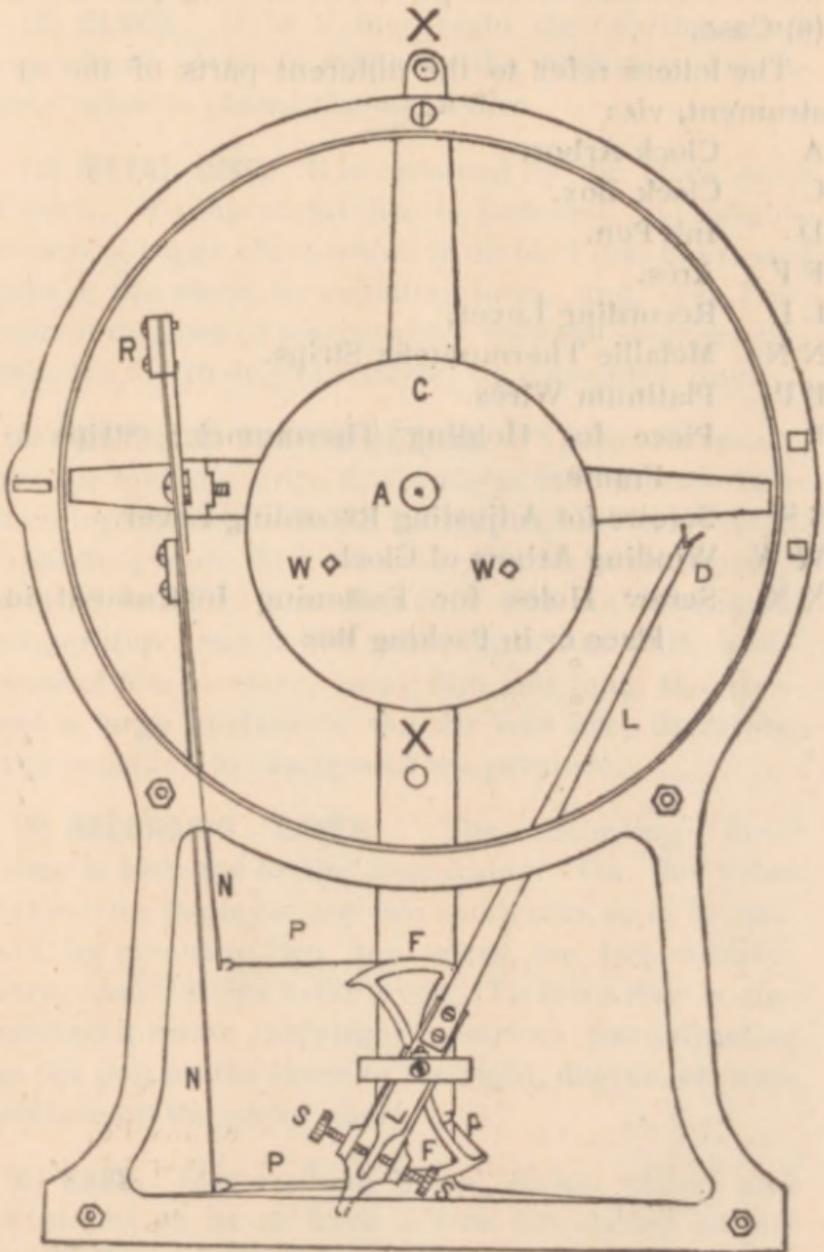
The DRAPER Thermometer is used as a standard at the

New York Meteorological Observatory,	N. Y. City.
Blue Hill Observatory,	Readville, Mass.
Harvard Observatory,	Cambridge, Mass.
Ardsley Park Observatory,	Irvington, N. Y.
Wellesley College,	Wellesley, Mass.
Hastings Observatory,	Hastings-on-Hudson.

And by many others all over the country.

Diagram of Recording Thermometer.

[WITH TWO THERMOMETRIC STRIPS.]

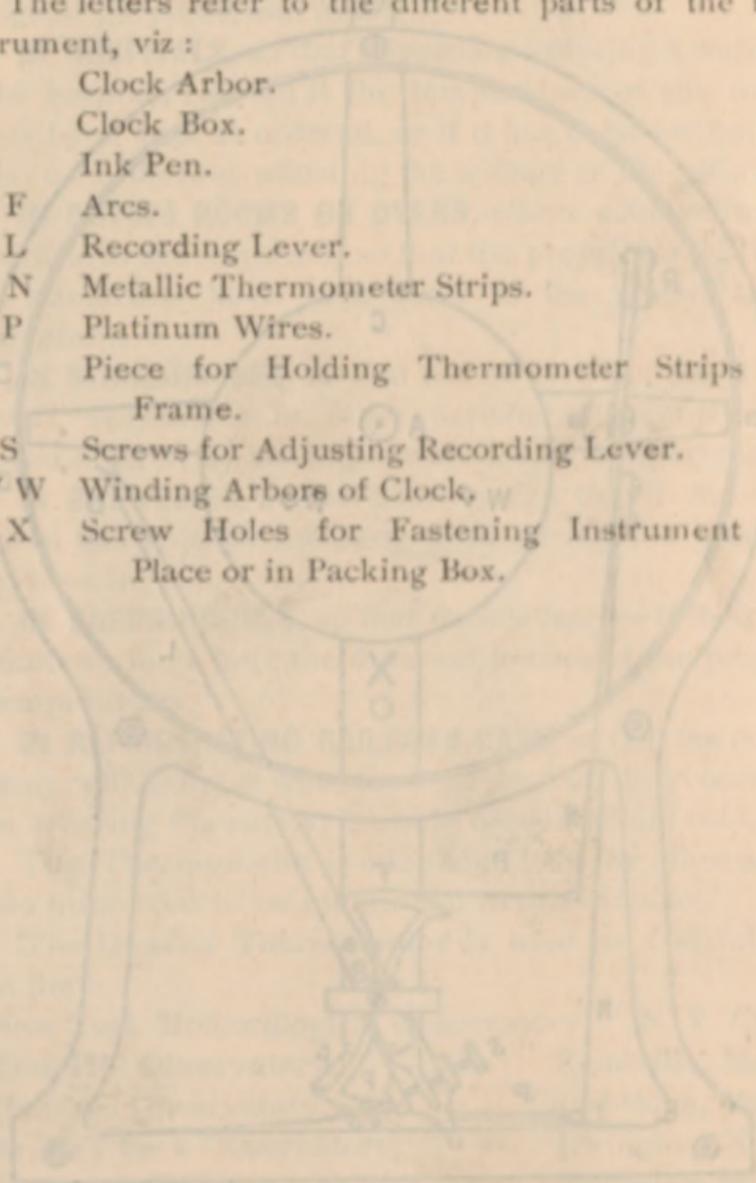


Description of Diagram of Recording Thermometer.

This instrument consists essentially of six parts: (1) Iron frame, (2) Clock, (3) Metal disc, (4) Two metallic thermometer strips, (5) Recording pen lever, (6) Case.

The letters refer to the different parts of the instrument, viz :

- A Clock Arbor.
- C Clock Box.
- D Ink Pen.
- F F Arcs.
- L L Recording Lever.
- N N Metallic Thermometer Strips.
- P P Platinum Wires.
- R Piece for Holding Thermometer Strips to Frame.
- S S Screws for Adjusting Recording Lever.
- W W Winding Arbors of Clock.
- X X Screw Holes for Fastening Instrument in Place or in Packing Box.



(1) **IRON FRAME.** The iron frame is the backbone of the instrument, and to it are fastened the clock, the two metallic thermometer strips, the frame for holding the recording lever, and also the perforated case to protect all the moving parts.

(2) **CLOCK.** It is a fine eight day spring clock movement, specially made for the purpose. On its hour arbor is placed the metal disc.

(3) **METAL DISC.** It is revolved by the clock once a week. To this metal disc is fastened, by suitable means, a paper chart which is divided into hours and days of the week, by radiating lines, and also Fahrenheit degrees of temperature from 20 degrees below zero to 110 degrees above, by concentric lines.

(4) **METALLIC THERMOMETERS.** These thermometers or metallic strips are made of two metals fastened together by suitable means, one of the metals expanding more than the other, causes the compound strip to bend in one direction with an *increase* of temperature, and in the other direction with a *decrease* of temperature, being thin and long, they present a large surface to the air and are, therefore, very sensitive to changes of temperature.

(5) **RECORDING LEVER.** The recording lever frame is fastened to the iron frame. On the arbor that carries the lever are two small arcs so as to connect, by means of two fine wires, the two metallic thermometer strips to the lever. To this arbor is also fastened a frame carrying two screws for adjusting the ink pen on the lever to the right degree of temperature on the paper chart.

(6) **CASE.** It is made of brass, nickel plated and perforated, so as to have a free circulation of air around the metallic thermometer strips, and also to protect them from injury. The case is fastened to the iron frame.

Read and study carefully the following directions before attempting to take Instrument out of packing-box.

To take Thermometer out of Packing-Box.

Having removed the cover of the packing-box, open the glass door of the thermometer while in packing-box, then with the right hand lift the end of the pen lever off the paper chart about half an inch, with the left hand take hold of the brass knob in the middle of the paper chart, revolve it *backwards*, and at the same time pull it towards you until it screws off from the clock arbor. Just behind the name-plate on the iron frame will be found a common brass screw; remove it; and also the one at the top of the iron frame on the *outside* of the thermometer case. Close the door of the instrument. You may now lift the thermometer out of the packing-box without injury.

To Place the Thermometer.

Having decided upon the place where you wish to have the thermometer, fasten it with the two screws that held it in the packing-box. Be sure that the instrument hangs plumb.

To Set the Instrument Working.

WIND CLOCK. Projecting through the cover of the clock box (C) will be found two steel winding arbors (W W) of the clock; on which place the key, turn the top to the right, until both springs are wound up.

TO PUT METAL DISC ON CLOCK. Take metal disc in the left hand, with the right hand lift the pen lever (D) just enough to put the hub of the disc on clock arbor (A). Press it on tight.

TO PUT PAPER CHART ON METAL DISC. With the right hand lift the pen (D) about one inch from the metal disc. Then with the left hand place the hole in the paper chart on the knob of the arbor (A) and the edge of the chart under the clamps on the edge of the metal disc. Turn the metal disc with paper chart on it around until the proper hour of the day of the week comes under the point of the ink pen (D). The pen may now touch the paper chart, so as to make the record of temperature.

TO FILL THE INK PEN. It will be found that three or four drops of the prepared ink from the glass filler will be enough to last a week.

TO ADJUST THE CLOCK TO TIME. If the paper chart revolves too fast or too slow past the point of the ink pen, it shows that the clock needs to be regulated. This may be done by first removing the metal disc with chart on it, then remove the cover of the clock box. On the top of the clock will be found the regulating lever. If you move it a little to the *right* the clock will go faster, to the *left* slower. The requisite amount of movement can only be found by trial. The box cover may now be put on, and the metal disc with paper chart be returned to its place, and the proper hour brought under the pen as described in a former paragraph.

TO ADJUST THE THERMOMETER. If from any accident the thermometer should be found to indicate the wrong degree of temperature it may be re-adjusted in the following manner:

Remove the *glass name-plate* of the instrument by unscrewing the four screws at its corners, and lift it off. Here on an arbor will be found the two arcs (F F) and the lever (I). On the lower end of the lever are two adjusting screws (S S). With these screws the position of the ink pen can be adjusted on the paper chart, so as to give a higher or lower reading of temperature.

PLATINUM WIRES.—If by any chance the platinum wires which connect the ends of the thermometer strips (N N) to the arcs (F F) of the lever (L) should get broken, you can have new platinum wires sent to you and easily put them on yourself, as they are all made of the same length and are interchangeable.

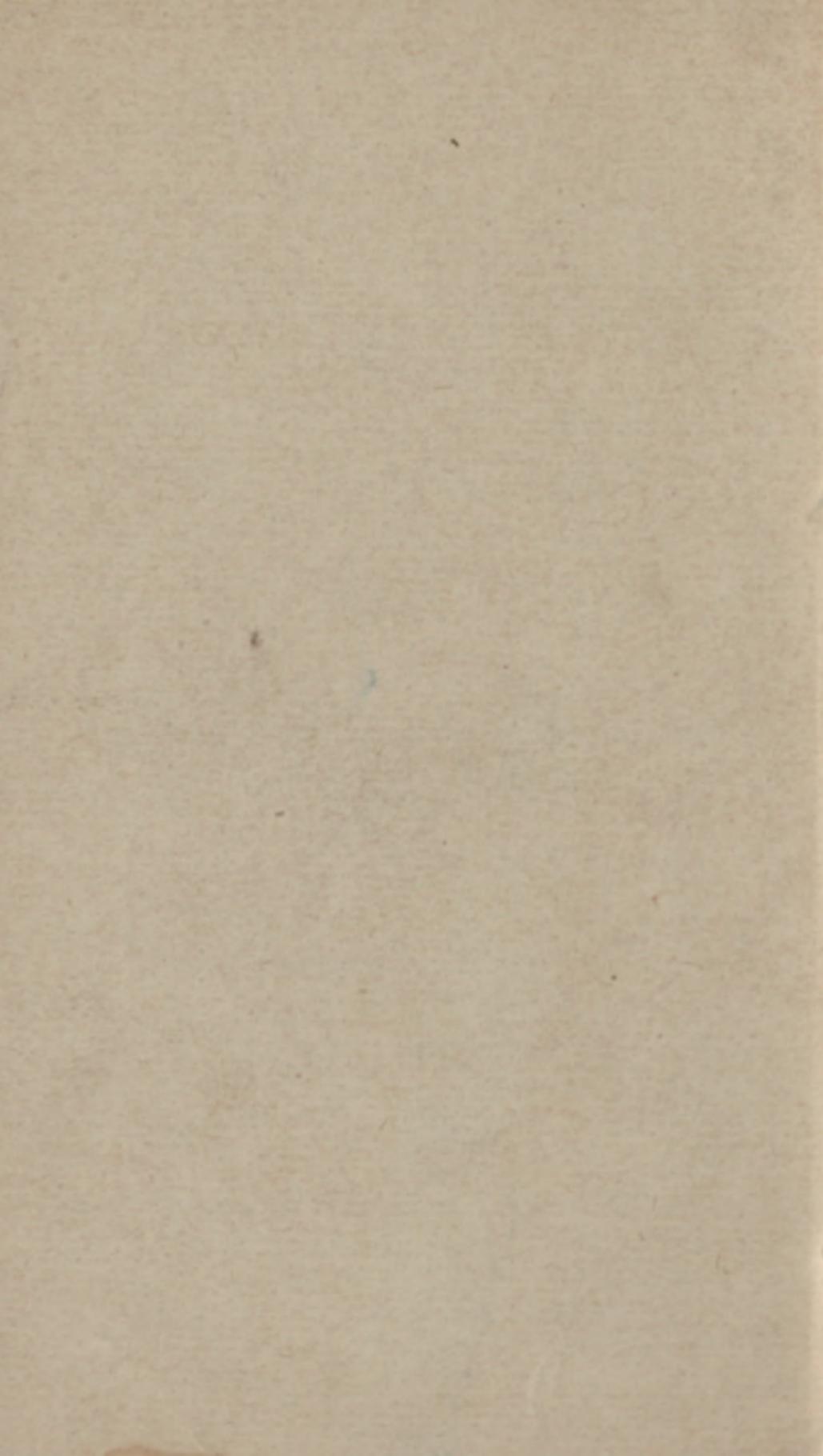
GLASS COVER AND NAME PLATE. If by any accident the glass in front of the chart should get broken, you can remove the sash by taking out the two pins in the hinge and send the sash to any glazier or to this company. Should the name-plate be broken, a new one can be sent you by this company.

CLOCK STOPPING. If after a time it is found necessary to have the clock cleaned, it can be removed by taking the cover off the clock box, and unscrewing the four screws that hold the clock to the iron frame. It may now be lifted out without doing any injury to the instrument, and the clock sent to any clock or watch-maker to be cleaned. If any of the parts of the clock have become injured beyond repair, a new clock can be supplied to fit in the place of the old one.

All parts of the DRAPER RECORDING THERMOMETER are interchangeable and can be sent either by mail or express C. O. D.

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