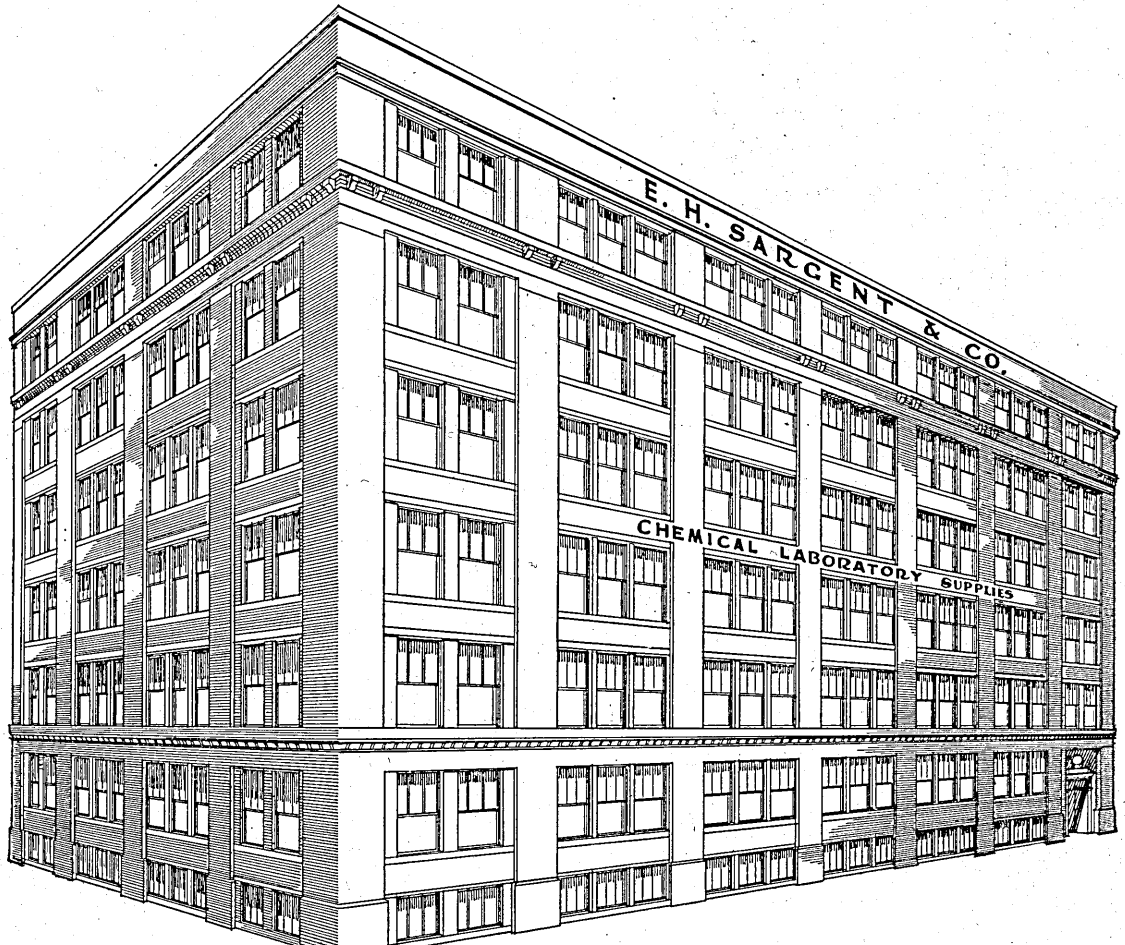
Scientific Laboratory Apparatus

INDUSTRIAL
CONTROL
RESEARCH
DEVELOPMENT

CHEMICAL
ANALYTICAL
PHYSICAL
ORGANIC
BIOLOGICAL

MEDICAL
BACTERIOLOGICAL
PATHOLOGICAL
SEROLOGICAL



E. H. SARGENT & CO.

Established 1852 — **85 Years of Service**

155-165 EAST SUPERIOR STREET, CHICAGO, U. S. A.

TELEPHONES

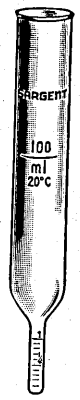
SUPERIOR 1174 TO 1180

SUPERIOR 1157, 1169, 1195

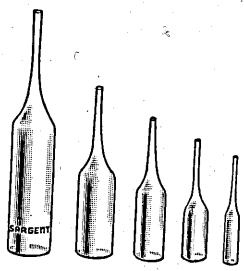
CODES

ABC 5th and 6th EDITION
BENTLEY COMPLETE PHRASE CODE
ACME CODE
WESTERN UNION CODE

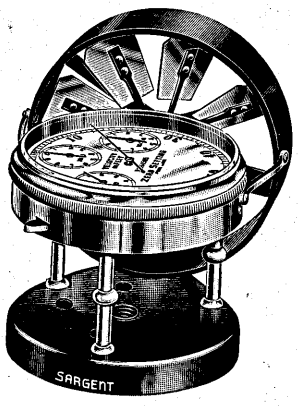
CABLE ADDRESS "ELMER" CHICAGO



S-605



S-615



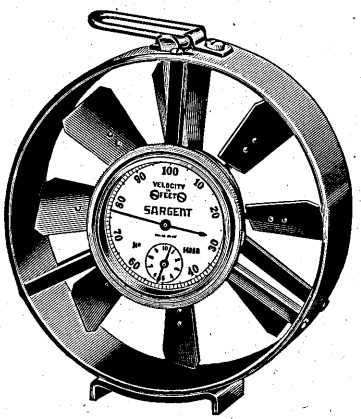
S-625

S-605 **AMMONIA TUBE—Moisture.** For the determination of moisture and impurities in anhydrous ammonia, consisting of a graduated tube of large bore with a small measuring stem, graduated in the stem from 0 to 1 ml in 0.1 ml divisions and on the main tube at a total capacity of 100 ml at 20° C. Length of measuring tube, 250 mm; diameter of large section, 40 mm.....**1.25**

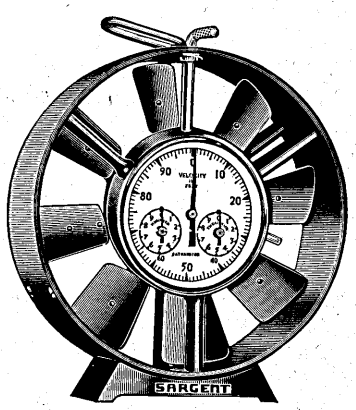
S-615 **AMPOULES—Non-Corrosive, Open Tops.** Equipped with flat bottoms to stand alone and drawn to long tips for sealing after filling. Made of clear chemically resistant glass of high insolubility to meet requirements and specifications of the U. S. Army Medical Supply Depot.

Capacity, ml	1	2	5	10	25
Per dozen	.25	.27	.40	.50	.75
Per gross	2.40	2.50	3.75	5.25	7.00

S-625 **ANEMOMETER—Short and Mason, Portable.** For the measurement of air velocities from 200 to 3000 feet per minute, with four dials, one sweep and three integrating, registering to a total of 100,000 feet. A high precision instrument with a jeweled movement, disconnector, automatic zero setting attachment and universal socket. Fan diameter, 2¾ inches; total height, 3 inches. In leather case with correction chart.....**72.75**



S-635



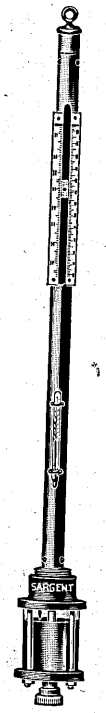
S-645

S-635 **ANEMOMETER—Short and Mason, Biram Pattern.** With support stand for vertical dial position, for measurement of air velocities from 100 to 1000 feet per minute, with two dials, one sweep and one integrating, for 1000 feet total registration. The movement is jeweled and a disconnecting device and zero setting attachment are provided. Frame diameter, 3 inches. In leather case with certificate.....**64.75**

S-645 **ANEMOMETER—Taylor, Biram Pattern.** For measurement of air velocities from 200 to 3000 feet per minute with three dials, one sweep and two integrating, with 10,000 feet total registration. The frame diameter is 4 inches and a disconnector device and automatic zero setting attachment are provided. The movement is jeweled. In leather carrying case with correction chart.....**30.00**

Anaerobic Culture Apparatus, Page 656.

Barometers



S-4515

S-4515 BAROMETER—Mercurial, Sargent.

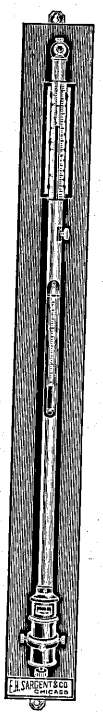
A very serviceable mercurial barometer of special design developed to secure simplicity of manipulation and a high degree of safety in shipment. The barometer tube selected with a full 4 mm bore is rigidly mounted in a strong brass enclosing tube on which are mounted scales, vernier and mercury reservoir.

The mercury reservoir is of glass and metal attached to the brass tube by means of a threaded union which is drawn tight for shipment and by means of which reservoir may be elevated or lowered to adjust the mercury level to exact contact with the level indicating pointer. The glass reservoir permits clear visibility of the pointer.

Scales are engraved black on a silver background with inch scale on one side and metric scale on the other. The vernier is double sided for accurate reading of both scales. The inch scale reads from 25 to 31 inches direct reading by vernier to 0.01 inch, while the metric scale is graduated from 650 to 800 mm direct reading by vernier to 0.1 mm.

A suspension ring is provided at the top of the brass tube by means of which the barometer may be hung from a hook, this method being recommended to insure vertical alignment. A thermometer with both Fahrenheit and Centigrade scales is permanently attached to the front of the brass tube.

This barometer is suitable for use at elevations from sea level to 3500 feet.....25.00



S-4525

S-4525 BAROMETER—Mercurial, U. S. Army Signal Corps Type, Fortin Principle, English Scale.

This barometer is of the finest construction. Recommended for making accurate barometric pressure measurements in laboratories and weather observatories, and suitable for use at altitudes up to 3000 feet. The glass barometer tube is mounted in a bronze metal case and the cistern is adjustable with zero position indicated by an ivory point in the cistern. The level of mercury is plainly visible as is also the meniscus of the column. The scales are equipped with verniers operated by a smoothly working rack and pinion movement. An accurate thermometer is attached to the case and is readily demountable for checking. The instrument is graduated from 25.5 to 31 inches and is equipped with Fahrenheit thermometer.

Mounted on polished mahogany board measuring 4½x43 inches, equipped with white opal glass reflectors to facilitate observation of the cistern and meniscus and with suspension bracket and ring clamp for cistern.....75.00

S-4535 BAROMETER, Only, of No. 4525. Without board, for suspension from ring.....65.00

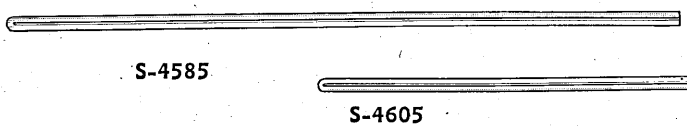
S-4545 BAROMETER—Mercurial, U. S. Army Signal Corps Type, Metric Scale. Identical in all respects with No. 4525 but graduated in the metric system from 650 to 800 mm in 1 mm subdivisions and with vernier reading to 1/10 mm. Mounted on board as above, but with Centigrade thermometer.....75.00

S-4555 BAROMETER, Only, of No. 4545. Without board, for suspension from ring.....65.00

S-4565 BAROMETER—Mercurial, U. S. Army Signal Corps Type, English and Metric Scales. Identical in all respects with Nos. 4525 and 4545, but with scale calibrated in both the English and metric systems, mounted on board with thermometer engraved in both the Fahrenheit and Centigrade scales.....85.00

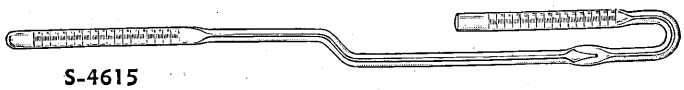
S-4575 BAROMETER, Only, of No. 4565. Without board, for suspension from ring.....75.00

Barometers for Higher Altitudes Can Be Supplied to Order.



S-4585

S-4605



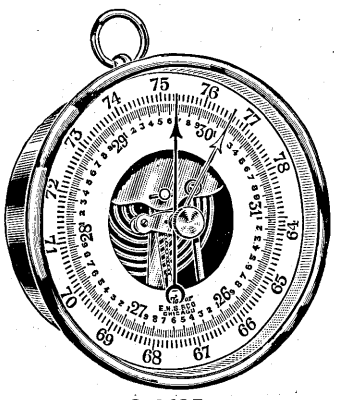
S-4615

S-4585 BAROMETER TUBE—Straight, Plain, Unfilled. For demonstration purposes, made with heavy wall and approximately 3 mm bore closed at one end. Length, 80 cm.....**.75**

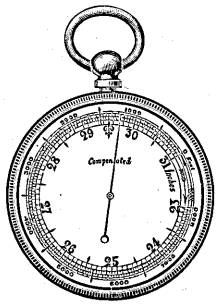
S-4595 BAROMETER TUBE—Straight, Graduated, Unfilled. Graduated from zero to 800 mm.....**2.75**

S-4605 BAROMETER TUBE—Syphon Form, with Reservoir, Unfilled. For demonstration use, with U bend and tubulated reservoir at bottom. Made of heavy walled tubing with bore approximately 3 mm. Length, 81 cm.....**1.25**

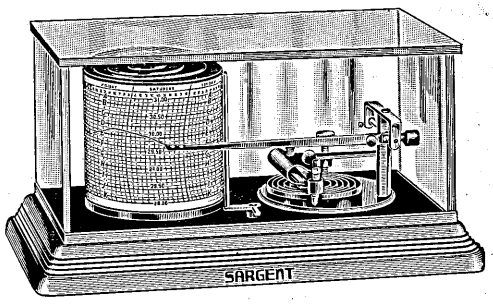
S-4615 BAROMETER TUBE—Bunsen, Syphon Type, Graduated, Unfilled, with Trap. Graduated above, reading upward from 250 mm to 450 mm and below reading downward from 250 mm to 420 mm. Length, 97 cm.....**4.00**



S-4625



S-4645



S-4655

S-4625 BAROMETER—Aneroid. In brass case 5 inches in diameter with open enameled metal dial revealing mechanism and with high grade movement. Graduated in metric and inch scales. Range 64 to 79 cm in 1 mm subdivisions and 25 to 31 inches in 0.02 inch subdivisions. For altitudes from sea level to 3500 feet.....**13.50**

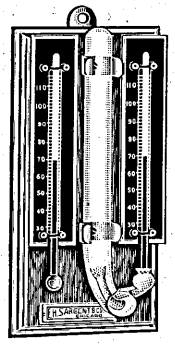
S-4635 BAROMETER—Aneroid, Compensated for Temperature. Similar to No. 4625, but with automatic temperature compensation. The dial is divided with great accuracy and the movement is of high grade workmanship and practically non-corrosive. Graduated in metric and inch scales. Range 64 to 79 cm in 1 mm subdivisions and 25 to 31 inches in 0.02 inch subdivisions. For altitudes from sea level to 3500 feet.....**20.00**

S-4645 BAROMETER—Aneroid, Pocket Size, Short and Mason. A precise instrument with temperature compensation in a gilt case 1¾ inches in diameter with a silvered metal dial. Equipped with two scales, one from 23 to 31 inches in 0.05 inch subdivisions and the other an altitude scale, range 0 to 8000 feet in 50 foot subdivisions. With soft leather pocket carrying case.....**33.00**

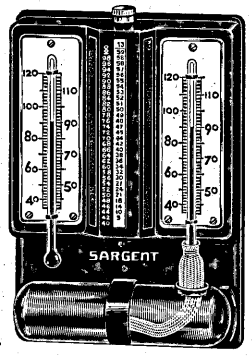
S-4655 BAROGRAPH—Aneroid, Recording, Taylor "Cyclo-Stormograph," U. S. Weather Bureau Style. For continuous record of barometric variations operating automatically by means of a diaphragm movement with temperature compensation and a seven day jeweled clock movement for rotation of charts. The entire mechanism is enclosed in a case of mahogany and glass. Range from sea level to 3500 feet. Length, 12½ inches; width, 7½ inches; height, 6¾ inches. Complete with a bottle of ink and weekly charts for a period of 1 year.....**37.50**

S-4665 Charts, Only. For use with No. 4655 barograph. Per year's supply.....**3.00**

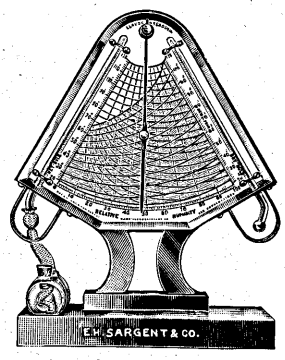
Batteries, Page 479; Battery Connectors, Page 483; Battery Jars, Page 655.



S-42635



S-42675



S-42705

S-42635 HYGROMETER—Wet and Dry Bulb, Mason, Improved.

Consisting of two thermometers with water reservoir and scales mounted on a mahogany panel suitable for suspension on a wall. The thermometers have magnifying fronts and are graduated from 30° to 120°F in intervals of 2°. The water reservoir is supported in spring clips to permit easy refilling.

Thermometers are mercury filled and mounted on black oxidized engraved metal scales accurately fixed in position and separated from the panel.

The panel is 8½ inches in height and 4½ inches wide and is provided with suspension eyelet.

Complete with extra wick and computation chart for determining relative humidity..... **5.00**

S-42645 Thermometer, Only. Of No. 42635 hygrometer, for replacement either as wet or dry bulb..... **2.00**

S-42655 Water Reservoir, Only. Of No. 42635 hygrometer, for replacement..... **.50**

S-42665 Wick, Only. For wet bulb, of No. 42635 hygrometer..... **.10**
Per dozen ..... **.75**

S-42675 HYGROMETER—Taylor Humidiguide, Mason Form, Bakelite.

A very attractive and convenient wet and dry bulb hygrometer equipped with a centrally located integral revolving computation table for direct reading of relative humidities from observed temperature differences without reference to separate tables.

Adjustment of the knob to show observed wet bulb depression at the top of the chart brings the correct relative humidity figure on the chart directly opposite the observed dry bulb temperature.

The thermometers are equipped with magnifying lens fronts and attached to polished lacquered metal scales marked with burnished figures. The mounting is of molded Bakelite.

The reservoir is removable and held in a horizontal position beneath the thermometer bulbs.

Complete with extra wicks and set of instructions **5.00**

S-42695 Wick, Only. Of No. 42675 hygrometer..... **.10**

S-42705 HYGROMETER—Wet and Dry Bulb, "Hygrodeik," Computing.

A modification of the Mason wet and dry bulb hygrometer incorporating a graphic computing device by means of which a swinging indicator provides immediate reading of relative or absolute humidity without the need for consultation of auxiliary tables. Wet and dry bulb thermometers are so located as to permit the use of their scales as coordinate axes from which the conversion curves are extended.

The curves are engraved on a metal plate with nickel finish and the entire assembly including thermometers, swinging pointer, chart and reservoir is assembled in a compact and substantial gray enameled brass supporting frame.

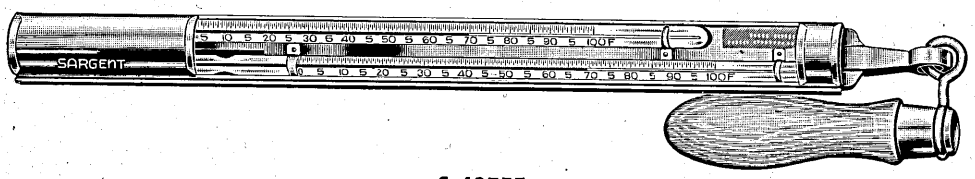
Thermometers are equipped with magnifying fronts and are graduated from 20° to 120°F in intervals of 1°. Complete with extra wick and instructions. **15.00**

S-42715 Thermometer, Only, Wet Bulb. Of No. 42705 hygrometer, for replacement..... **2.75**

S-42725 Thermometer, Only, Dry Bulb. Of No. 42705 hygrometer, for replacement..... **2.75**

S-42735 Water Reservoir, Only. Of No. 42705 hygrometer..... **.50**

S-42745 Wick, Only. Of No. 42705 hygrometer..... **.10**



S-42755

S-42755 HYGROMETER—Sling Psychrometer.
The standard instrument for accurate determination of water concentration in air or relative humidity by means of wet and dry bulb temperature difference. It consists of a metal frame in which are rigidly mounted two matched 12 inch thermometers graduated from 0° to 100°F in intervals of ½°F, one of which is equipped with a tubular silk wick.

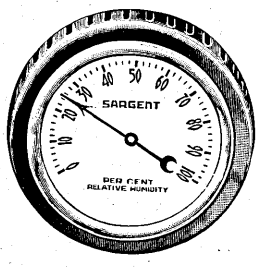
The frame is attached by a swiveled joint to a polished wood handle in such a way as to permit its rapid rotation about the handle as pivot so providing ventilation for the wet bulb.

This instrument is recommended for calibration purposes when it is desired to standardize other hygrometric instruments to be employed in fixed positions.

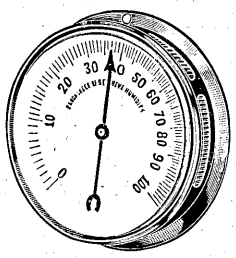
A complete set of charts for computation of humidity values from temperature differences is provided together with a brass protective case to enclose the thermometers and frame when not in use **9.50**

S-42765 Thermometer, Only. For replacement either as wet or dry bulb thermometer in No. 42755 sling psychrometer. This thermometer has a specially designed tip at its upper end to assist in holding it in the psychrometer frame..... **3.25**

S-42775 Wick, Only, Silk. For use with No. 42755 sling psychrometer..... **.10**
Per dozen ..... **.75**



S-42785



S-42795

S-42805

S-42785 HYGROMETER—Composite Spiral Movement, Dial Type, Direct Reading, Panel Mounting. A direct reading instrument mounted in a circular metal case and actuated by a spiral vapor-sensitive composite element. The dial is calibrated from 0 to 100% relative humidity, the movement being accurate to several percent under most conditions. Diameter, 4⅝ inches; depth, 1½ inches. Complete in metal case with suspension hole for panel or wall mounting **5.00**

S-42795 HYGROMETER—Hair, Dial Type, Direct Reading, Panel Mounting.
This is a hair actuated instrument of the best quality and will be found correct under most conditions within several percent if properly adjusted after installation. Its calibration should be periodically checked against a sling psychrometer or No. 42605 Sargent Hygrometer.

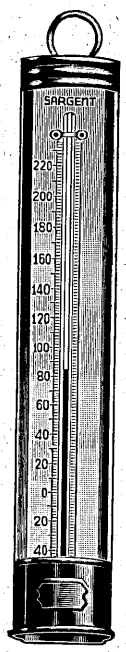
The movement is designed to operate in a vertical wall or panel mounted position and is contained in a lacquered brass case with dust proof glass covered metal dial. Graduated from 0 to 100% relative humidity.

Diameter, 5 inches; depth, 1½ inches.

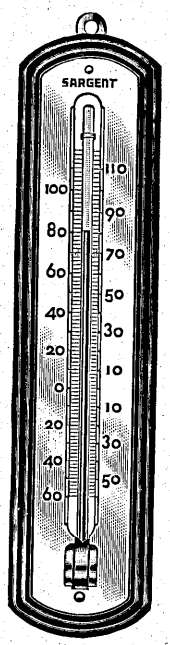
Complete in metal case with holes for panel or wall mounting **8.00**

S-42805 HYGROMETER—Hair, Lambrecht, with Thermometer and Dew Point Scale, Wall Mounting.
A relatively accurate hair hygrometer mounted with thermometer on a brass frame for wall mounting. The dial is 3 inches in diameter and is calibrated from 0 to 100% relative humidity and in a temperature scale representing figure to be subtracted from thermometer reading to find dew point temperature at the corresponding humidity. The thermometer is of the enclosed milk glass scale type with magnifying front, graduated from minus 10° to plus 120°F in 1° subdivisions and showing corresponding vapor pressures of water in millimeters of mercury. This instrument should be calibrated against a ventilated wet and dry bulb instrument, No. 42605 or No. 42755..... **12.00**

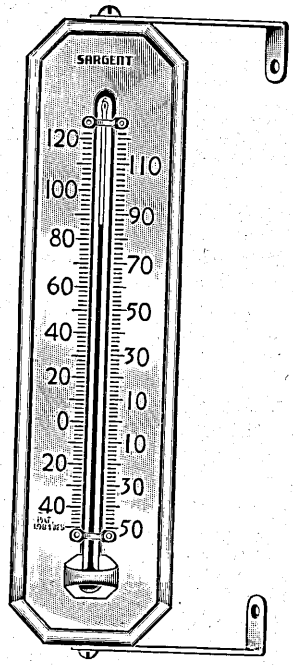
Wall Type Thermometers



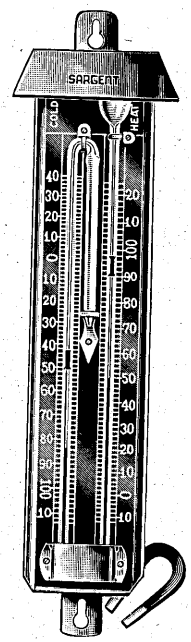
S-81445



S-81465



S-81475



S-81505

S-81445 THERMOMETER—Wall Form, Metal Frame, Metal Scale, Mercury, Fahrenheit, 220°F. A thermometer suitable for suspension against the wall with magnifying front and white backed tube fixed against a silvered metal plate with black engraved scale in a black metal case with suspension hook. Range, approximately 0 to 220°F in intervals of 2°. Length, 12 inches.....**2.25**

S-81455 THERMOMETER—Wall Form, Metal Frame, Metal Scale, Mercury, Fahrenheit, 360°F. Identical with No. 81445, but with range approximately 40 to 360°F in intervals of 2°. Length, 12 inches.....**2.50**

S-81465 THERMOMETER—Wall Form, 110°F. Attractively constructed with enameled wood back with suspension loop, silvered metal plate, black engraved scale and red filled thermometer tube with magnifying front. Range, from between –20 and –60° to 110°F in intervals of 2°. Length, 8½ inches.....**1.25**

S-81475 THERMOMETER—Weather, Window Type, Fahrenheit.

An accurate weather temperature instrument designed for convenient mounting on exterior window frames to be read through the window.

The tube has a magnifying lens front and is mounted on an all metal case, white porcelain enameled. Graduations are black permanently fixed into the white enamel. Mounting brackets are provided for installing the instrument in a convenient position for reading, permitting rotation about the vertical axis. The material and finish are selected for excellent weather resistance.

Range, approximately –30 to 120°F in intervals of 2°; scale size, 8½x2 inches.....**1.00**

Maximum and Minimum Registering Thermometers

S-81505 THERMOMETER—Maximum and Minimum Registering, Six Pattern, Differential, Wall Form.

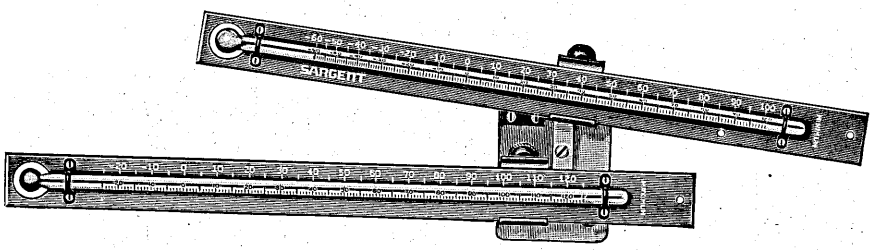
An instrument for registering maximum and minimum temperatures during any period since the last resetting by the movement of the mercury column in a U shaped capillary due to differential expansion in two terminal expansion chambers. The U capillary is mounted on a brass case with hood and with top and bottom bracket for mounting on wall.

Reversed scales are engraved on the case at the sides of the two arms, reading from approximately –10 to 120°F and 110°F to –40°F respectively. Each arm contains a metallic indicating float which remains at the point of highest column rise, being left at its highest position on recession of the column. Floats are reset by means of a magnet supplied with the instrument.

The tube has a magnifying front.

Scales are engraved directly on the lacquered brass case. Total length, 11½ inches.

Complete with magnet and directions.....**6.00**



S-81515

S-81515 THERMOMETERS—Maximum and Minimum Registering, U. S. Weather Bureau, Townsend Pattern.

This unit consists of two registering thermometers of the U. S. Weather Bureau pattern consisting of engraved stem thermometers mounted on correspondingly engraved aluminum scales and held in the correct positions with rotating facilities by the Townsend style metal support.

The maximum thermometer registers by separation of the mercury column in a constriction of the bore on contraction of mercury in the bulb. The minimum thermometer registers by the position of an index float carried downward by surface energy with recession of the mercury meniscus and allowed to remain at the lowest position when the meniscus rises.

The Townsend support allows all necessary manipulations in the continued use of both thermometers without removal of aluminum thermometer scales from the clamps.

The upper clamp which holds the minimum thermometer is capable of a quarter turn for resetting while the lower clamp, extended forward to clear the upper, rotates freely for complete freedom in reading and resetting the maximum thermometer.

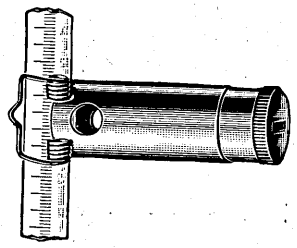
The minimum thermometer is spirit filled with a range approximately 20 to 60° below zero to 100 to 120°F in intervals of 1° while the maximum thermometer is mercury filled with a range approximately –20 to 120°F in intervals of 1°.

Each thermometer is made strictly in accordance with U. S. Weather Bureau specifications and provided with manufacturer's certificate of accuracy.

Complete including maximum and minimum thermometers and support.....**18.00**

S-81525 Maximum Registering Thermometer, Only. Of No. 81515 thermometer assembly mounted on engraved aluminum plate to fit clamp of Townsend support. Length, 12 inches.....**6.00**

S-81535 Minimum Registering Thermometer, Only. Of No. 81515 thermometer assembly mounted on aluminum plate to fit clamp of Townsend support. Length, 12 inches.....**6.00**



S-81565

S-81575

S-81565 READING LENS—Thermometer, Magnifying.

A compact, convenient, adjustable lens greatly facilitating reading of fine thermometer scales and especially useful for application to Beckmann differential thermometers. It attaches to the thermometer by a spring clamp which can accommodate engraved stem or Beckmann thermometers of 6 to 16 mm diameter. It can also be attached to burettes to facilitate reading the meniscus. The spring clamp supports at a normal angle a tubular nickel plated metal sleeve in which slides a metal lens mounting with viewing aperture. The latter element may be moved in or out to secure exact focus **3.00**

S-81575 GRADUATION FILLER—Thermometer and Burette, Air Drying, Sargent. For refilling graduations of thermometers or burettes. This material is very resistant to water and most common solvents and dries in air to a hard adherent film which withstands considerable mechanical friction. It can be applied by thinning the required quantity with turpentine to the consistency of cream and pressing into graduations with a spatula, the excess being wiped off with the flat surface of a piece of stiff paper, using a fresh surface at each stroke. Color black. Per 10 gram tube.....**.65**

Specific Gravity Balance Thermometers, Page 64.
Micro Beckmann Thermometer, Page 730.
Polarimeter Thermometers, Page 977.
Refractometer Thermometers, Pages 994 to 998.