

**A. E. MOELLER CO.**

MANUFACTURERS OF  
**THERMOMETERS**  
HYDROMETERS, BAROMETERS,  
SOUNDING TUBES, ETC.



261-263-265 SUMPTER STREET  
BROOKLYN, N.Y.



#15

# CATALOGUE 21

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Price List of

# THERMOMETERS

Hydrometers, Barometers,  
Sounding Tubes and Scales

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Temperature and Specific Gravity Indicators for Chemists, Confectioners, Sugar Refiners, Varnish Manufacturers, Cold Storage and Refrigerating Plants

INCUBATOR AND BROODER THERMOMETERS OF STANDARD QUALITY

Electric Recording Thermometers

Self-Registering Thermometers for Steam and Hot Water

Marine, Bath, Window, Show and Advertising Thermometers

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## A. E. MOELLER CO.

261-63-65 Sumpter Street

Established 1897

BROOKLYN, N. Y.



## INTRODUCTION



THE instruments manufactured by us are quoted at prices consistent with their quality of workmanship and material. We endeavor to place before the public the very best that can be produced.

We make a large variety of instruments, each of which is constructed with special regard to the class of work for which it is intended. Therefore, we offer a full assortment from which the most exacting can feel assured of the highest satisfaction.

To accomplish this we have installed in our plant the very latest, most improved machinery and appliances that have ever been built, and employ the most skillful and experienced instrument makers and mechanics that are available in this country.

Manufacturers, Engineers, Technical and Scientific men generally are coming to realize to a greater extent than ever before that in the last analysis, "Heat is the Active Principle," and that temperature control in power and process establishments is absolutely necessary to economy, efficiency, and character of product.

We can cite many concrete and startling instances illustrative of the above made statement, and as a matter of fact whole industries have been revolutionized by the application of this principle after decades of operation without it.

We make a specialty of building instruments to order for particular requirements to which listed or stock instruments cannot conveniently be applied.

The instruments on which our trade-mark appears are constructed of the very best materials for their respective purpose and are thoroughly tested and inspected before they leave our factory.

We respectively solicit a continuance of the esteemed patronage of our many friends and hope to merit it through consistent care and attention to the details of the demands which may be placed upon us.

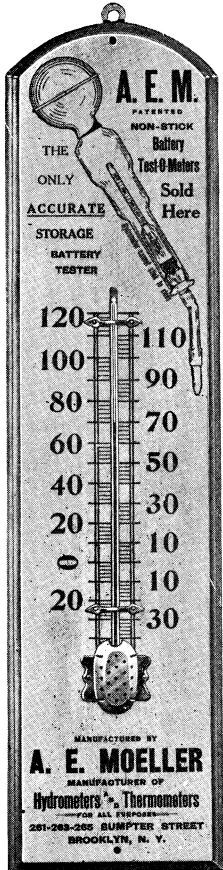
A. E. MOELLER COMPANY.



## IMPORTANT

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1. When ordering be sure to specify not only page and cut number but also mention the proper size and scale desired.
2. Always give full address and shipping instructions, as otherwise we will use our own judgment.
3. Every precaution is used in packing instruments to avoid damage during transportation, but we assume no responsibility after goods leave our factory.
4. All repair work should be properly labeled with shipper's name and address, so it may be returned to its rightful owner.
5. All standard thermometers are stamped with our trade mark unless otherwise ordered.
6. Orders from parties unknown to us should be accompanied by cash or satisfactory references.
7. All C. O. D. orders must be accompanied by sufficient cash to pay express charges both ways.

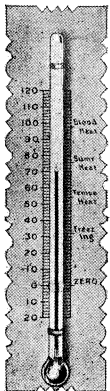


## ADVERTISING THERMOMETERS

Size Inches	Prices in lots of						Extra For		
	25	50	100	250	500	1000	Enamel Finish	Different Color Edges	
VARNISHED NATURAL WOOD									
8½ x 2½	....	.33	.30	.29	.28	.27	.02	.02	
12 x 3	....	.48	.44	.41	.39	.38	.03	.03	
15 x 4	....	.58	.54	.51	.48	.45	.03	.03	
21 x 5	1.05	.96	.93	.90	.89	.86	.06	.06	
24 x 6	1.17	1.13	1.10	1.08	1.07	1.05	.06	.06	
36 x 7	3.00	2.85	2.70	2.58	2.55	2.48	.12	.12	
48 x 9	4.65	4.40	4.28	4.20	4.13	4.05	.15	.15	
21 x 9	1.50	1.41	1.35	1.31	1.28	1.25	.06	.06	
12 x 6	....	....	.68	.66	.65	.61	.04	.05	
24 x 7	1.50	1.41	1.35	1.31	1.28	1.25	.08	.06	
8 x 3	....	.32	.29	.27	.26	.24	.02	....	
12 x 3½	with barometer		.72	.69	.68	.65	.04	.06	
12 x 3½	small sole		.75	.72	.69	.66	.02	.03	
21 x 5	large sole		1.28	1.25	1.22	1.19	.08	.06	
15 x 5	small cigar		.75	.74	.72	.69	.04	.05	
12 x 3½	paint brush		.68	.65	.62	.59	.04	.03	

NOTE: Special designs and sizes made to order. Prices upon application.

The above thermometers are made with spirit tubes only, packed each in a cardboard box.



### Wood Protectors Add to List:

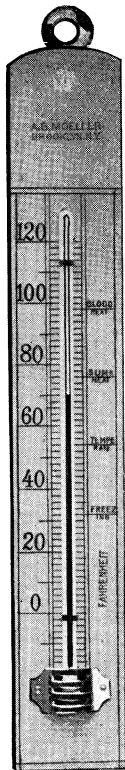
8" to 12".....	\$10.00 per M	21" to 24".....	\$23.00 per M
12" to 15".....	15.00 per M	36" to 48".....	30.00 per M

### CARDBOARD SCALES

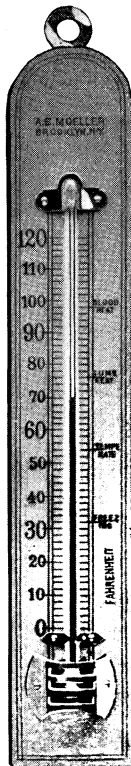
Size	100	250	500	1000
For Printing in 2 colors add...	.02	.02	.01	.01
4 x 1 inches .....	.14	.13	.12	.10
8 x 2 inches .....	.24	.23	.22	.20
6 x 4 inches .....	.27	.24	.23	.21



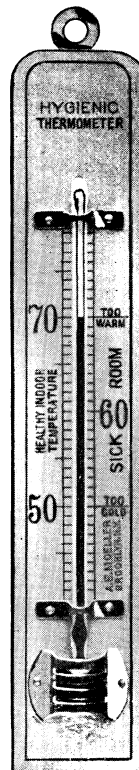
## HOUSEHOLD THERMOMETERS



G 1



G 11



G 15

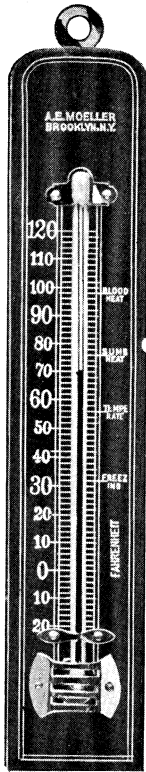
Price, per doz.

- |      |  |                       |
|------|--|-----------------------|
| G 1  | Highly polished wood back thermometers, assorted colors, black filled graduations, nickel trimmings, mercury or mercolor tubes, graduated approximately minus 20 to 120° F .....     | 5" 10"<br>\$4.25 5.00 |
| G 11 | Highly polished wood back thermometers, imitation boxwood, black filled graduations, nickel trimmings, mercury or mercolor tubes, graduated approximately minus 20 to 120° F .....   | \$8.00                |
| G 15 | Hygienic thermometer designating the healthy indoor or room temperature, very sensitive, imitation boxwood with black graduations, brass trimmings, graduated from 50 to 70° F ..... | \$10.00               |

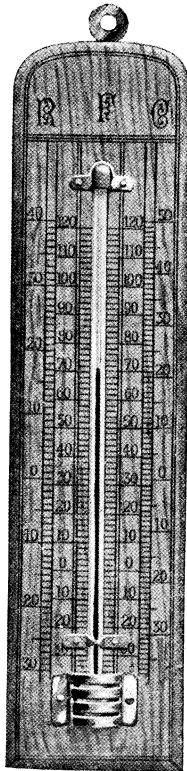
Above thermometers, mounted on display cards, add to list, \$5.00 per dozen

## HOUSEHOLD THERMOMETERS

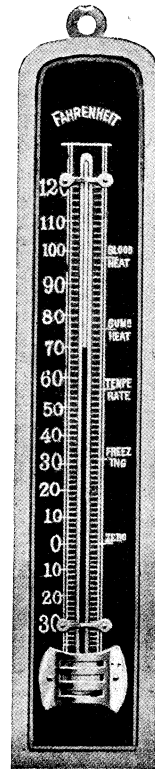
(CONTINUED)



**G 25**



**G 20**

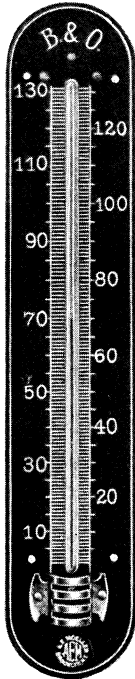


**G 30**

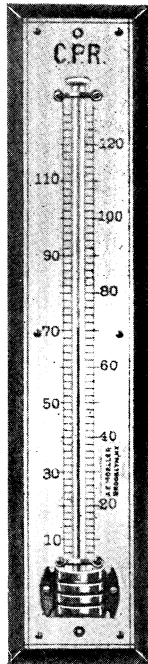
- |   |  |
|---|--|
| <b>G 25</b> Highly polished imitation mahogany wood back thermometers, white filled graduations, nickel trimmings, magnifying mercury or mercolor tubes, graduated approximately minus 20 to 120° F. ....                                   | Price, per doz.<br>Each Packed<br>In a Box<br><br>8"<br>\$9.00 |
| <b>G 20</b> Comparative thermometer graduated with three scales, Fahrenheit, Reaumur and Centigrade. Boxwood or black finish nickel trimmings, mercury tubes only. ....   | 10"    12"<br>\$10.00    12.00                                 |
| <b>G 30</b> Highly polished wood back thermometer, raised scale on white enameled back with rounded edges, white filled graduations nickel trimmings. Magnifying mercury or mercolor tubes graduated approximately minus 30 to 120° F. .... | <br>8"<br>\$12.00  |



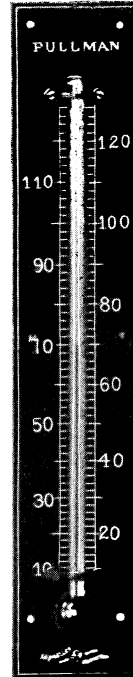
## RAILROAD COACH THERMOMETERS



No. 35



No. 40

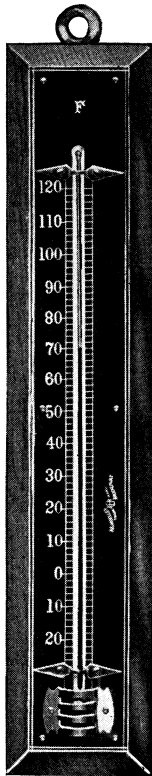


No. 45

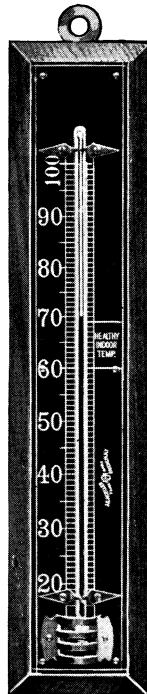
- |               |  | Price, each |
|---------------|--|-------------|
| <b>No. 35</b> | 8" Black oxidized brass scale rounded at both ends, with white filled figures mercolor tube sunk in scale for protection, with bulb guard; approximate scale range, 0 to 120° F.....                             | \$3.00      |
| <b>No. 40</b> | 8" High grade thermometer, beveled mahogany finished back, black or silvered scale, with brass trimmings. Mercolor tube sunk through scale in the wood for protection. Approximate scale range, 0 to 120° F..... | \$8.50      |
| <b>No. 45</b> | 7" Pullman type black oxidized brass scale made to be fastened to wood work in car. Black painted trimmings. Mercolor tubes sunk in scale for protection.....  | \$5.00      |

## CABINET THERMOMETERS

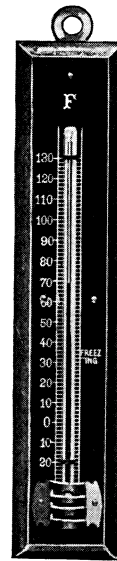
For Schools, Hotels, or Public Buildings



No. 50



No. 60

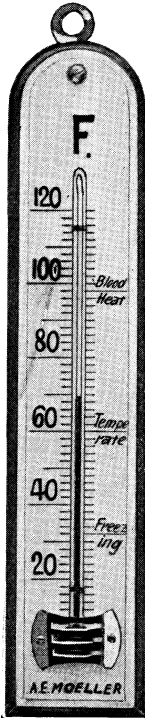


No. 70

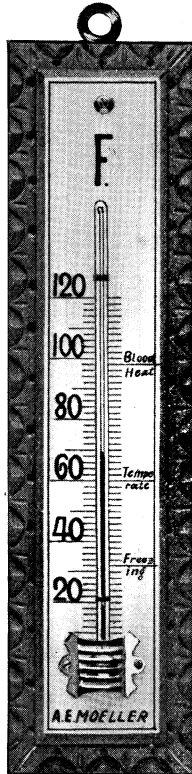
		Price, per doz.	
No. 50	High grade thermometers, beveled golden oak polished back, oxidized brass scale with brass trimmings. Mercury or mercolor tubes graduated approximately minus 20 to 130° F.....	10½"	12" \$24.00 28.00
No. 60	Healthy indoor thermometers, beveled golden oak polished back, black oxidized brass scale, with brass trimmings, mercury or mercolor tubes graduated approximately 30 to 100° F. ....	10½"	12" \$24.00 28.00
No. 70	Cabinet thermometer, oval birch back, black oxidized brass scale with brass trimming. Mercolor tubes graduated minus 20 to 120° F.....	8½"	10½" \$11.00 13.00



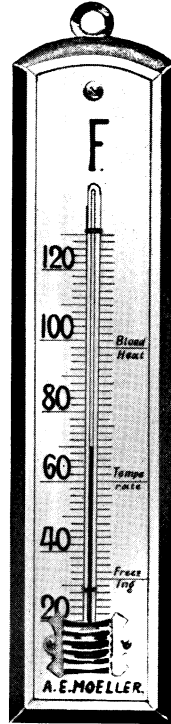
PORCELAIN FRONT CABINET THERMOMETERS



No. 75



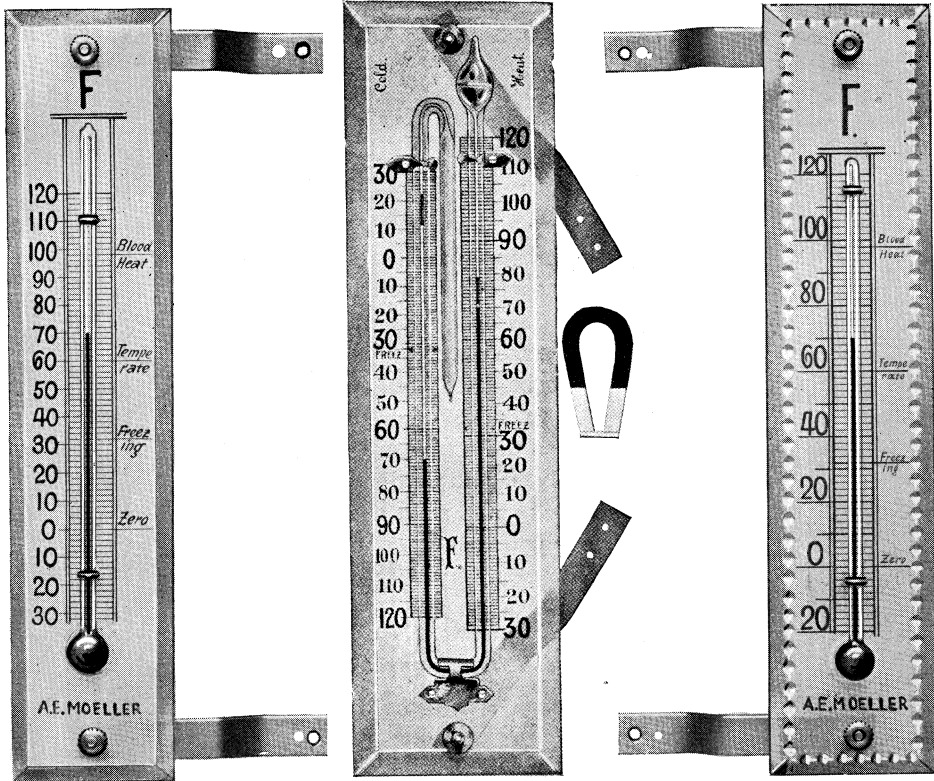
No. 80



No. 85

	Price per doz.	
<b>No. 75</b> High grade porcelain beveled edge scale, annealed black figures on walnut or cherry polished wood back with nickel trimmings. Mercury or mercolor tubing graduated approximately 30 to 120° F. Packed in cardboard box .....	8" 10"	\$27.00 30.00
<b>No. 80</b> High grade porcelain scale mounted on finely carved wood back with nickel trimmings, graduated approximately 30 to 120° F.....	8"	\$30.00
<b>No. 85</b> High grade porcelain beveled edge scale, annealed black figures mounted on solid oak or mahogany back, with nickel trimmings, graduated approximately 20 to 120° F .....	8" 10"	\$27.00 30.00

## PLATE GLASS WINDOW THERMOMETERS



**No. 90**

**No. 100**

**No. 95**

<b>No. 90</b>	Beveled edge, white enameled face, plate glass window thermometer with aluminum brackets for attaching to window frame, figures annealed. Mercury or mer- color tubes graduated approximately minus 50 to 120° F. Each packed in a box.....	8" 10" \$30.00 36.00
<b>No. 91</b>	Beveled edge plate glass window thermometer with frosted front, otherwise same as above.....	\$28.00 34.00
<b>No. 92</b>	Square edge plate glass window thermometer, frosted front, otherwise same as above.....	\$24.00 28.00
<b>No. 95</b>	Fancy cut beveled edge plate glass window thermome- ters, otherwise same as above.....	\$32.00 38.00

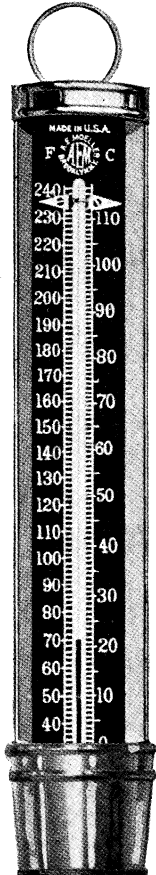
## SELF-REGISTERING THERMOMETERS

### Maximum and Minimum Six's Pattern

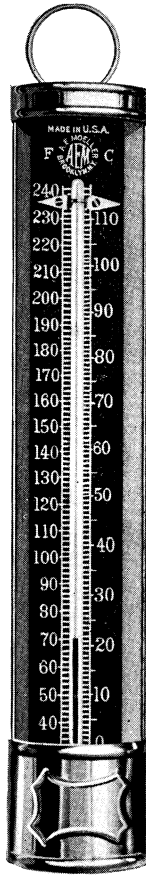
<b>No. 100</b>	Beveled edge plate glass, self-registering thermome- ter with aluminum brackets and magnet, figures an- nealed, graduated approximately minus 30 to 120° F. Each packed in a box.....	Price, per doz. \$84.00
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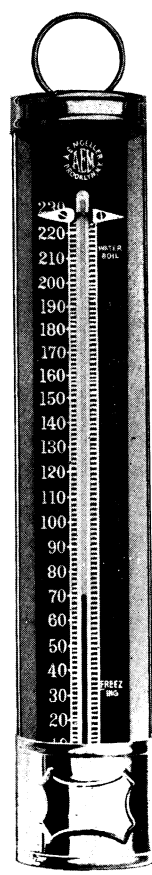
**COPPER AND TIN CASE THERMOMETERS**  
STANDARD GRADE  
"Water Boil" Temperature



No. 105



No. 110

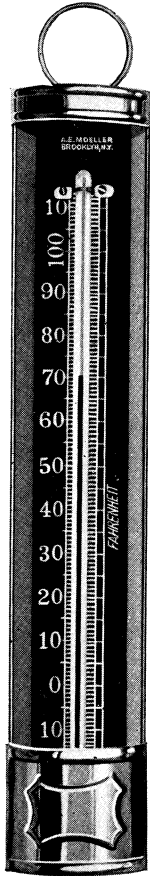


No. 115

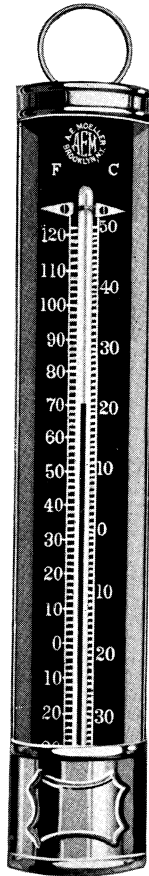
		Price, per doz.
No. 105	Copper scoop cup thermometer, extra large magnifying mercury tubes, screwed with strong clip to oxidized brass scale, graduated 0 to 240° F. C. or F. R.	One in a Box. 12" \$36.00
No. 110	Copper case thermometer, extra large magnifying tube screwed with strong clips to black oxidized brass scale graduated appr. 0 to 240° F. C. or F. R. ....	10" 12" \$30.00 36.00
No. 111	Tin case thermometer, black japanned, otherwise same as No. 110 .....	\$24.00 27.00
No. 115	Copper case thermometer, extra large magnifying mercury tube screwed with strong clips to black oxidized brass scale; approximate range of scale 0 to 230° F .....	\$27.00 30.00
No. 116	Tin case thermometer, black japanned, otherwise same as No. 115 .....	\$21.00 24.00

The above thermometers are made with Jena glass bulbs and bear our Registered Trade Mark unless otherwise ordered.

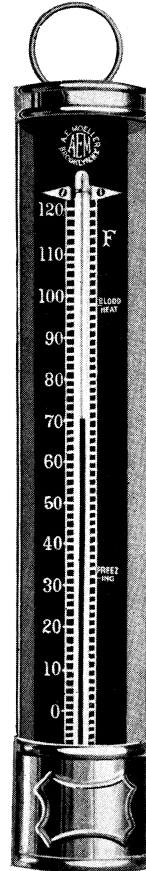
**COPPER AND TIN CASE THERMOMETERS**  
 "Air and Cold Storage" Temperatures



**No. 120**



**No. 125**

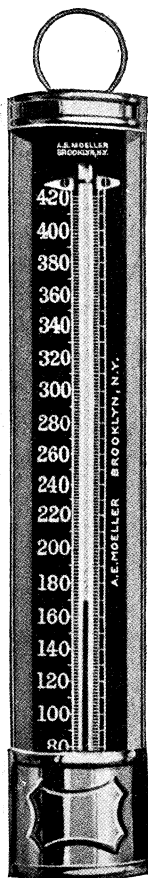


**No. 130**

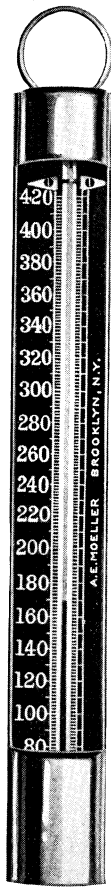
		Price, per doz.	
		Each in a Box.	
		10"	12"
No. 120	Copper case thermometer, extra large magnifying mercury tubes screwed with strong clips to oxidized brass scale; appr. range of scale, minus 20 to 100° F...	\$27.00	30.00
No. 121	Tin case thermometer, black japanned, otherwise the same as No. 120.....	\$21.00	24.00
No. 125	Copper case thermometer, extra large magnifying mercury tube screwed with strong clips to black oxidized brass scale graduated approximately minus 30 to 120° F. C. or F. R. ....	\$27.00	30.00
No. 126	Tin case thermometer, black japanned, otherwise the same as No. 125.....	\$21.00	24.00
No. 130	Copper case thermometer, to 120° F., otherwise same as No. 120.....	27.00	30.00
No. 131	Tin case thermometer, black japanned, otherwise the same as No. 130.....	\$21.00	24.00

For ranges of 60 to 80° below zero, colored spirit tubes, add 33 $\frac{1}{3}$ % to the above list.

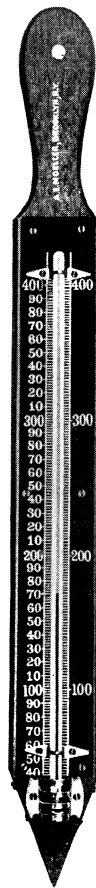
**COPPER AND WOOD CASE THERMOMETERS**  
for "High" Temperatures



No. 135



No. 140



No. 145

<b>No. 135</b>	Copper case thermometer, extra large magnifying mercury filled tube screwed with strong clips to black oxidized brass scale; approximate range of scale, 80 to 420° F. ....	Price, per doz. 10" 12" \$30.00 36.00
<b>No. 140</b>	Confectioners thermometer, copper case with hook on back of case for hanging on kettle, extra large magnifying mercury filled tube screwed with strong clips to black oxidized brass scale; approximate range of scale, 100 to 400° F. ....	12" 14" \$36.00 42.00
<b>No. 145</b>	"Strop" wood case thermometer with handle, black oxidized brass scale, large magnifying mercury filled tube; approximate range of scale 40 to 400° F. ....	16" \$36.00 10" 12" 14"
<b>No. 141</b>	Extra heavy scales to fit cases. ....	\$20.00 24.00 30.00

The above thermometers are made with Jena glass bulbs and are guaranteed not to change when used at the highest temperature indicated on the thermometer. (See Mechanical Thermometers)



## SOIL OR HOT BED THERMOMETERS

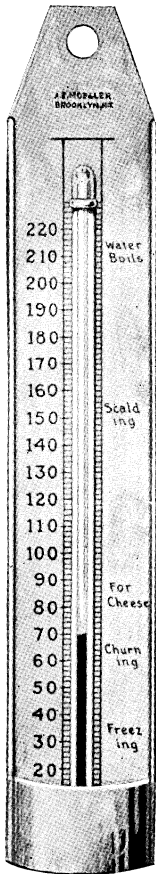


**No. 150**

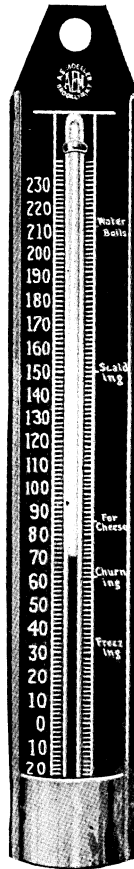
- |   | Price, per doz. |
|---|-----------------|
| <p><b>No. 150</b> 16" Soil thermometer, hardwood frame, oxidized brass scale, mercury filled tube, graduated from approximately 20 to 180° F, with improved temperature conducting metal point making good contact with soil and thermometer bulb, standard quality .....</p> | \$40.00         |
| <p><b>No. 151</b> Soil thermometer without mercury well, scale engraved on wood back, with perforated brass point.....</p>  | 32.00           |

## DAIRY THERMOMETERS

Standard Grade



**No. 200**



**No. 210**

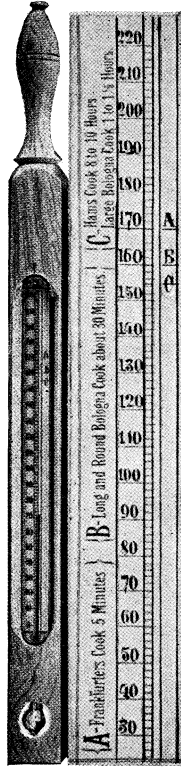
		Price, per doz.	
No.	Description	8"	10"
No. 200	Metal flanged dairy thermometer, nicked brass scale with sliding guard, mercury filled tubes, approximate range of scale 0 to 230° F. ....	\$14.00	15.00
No. 201	Same as No. 200 but with mercolor filled tubes. ....	\$13.50	14.50
No. 210	Metal flanged dairy thermometer, mercury filled tube, black oxidized scale, with figures, with sliding guard. ....	\$13.50	14.50
No. 211	Same as No. 210 but with mercolor filled tubes. ....	\$13.00	14.00

For glass floating dairy thermometers see page No. 80.

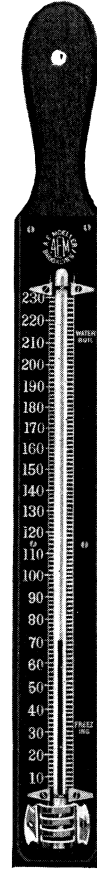
## MEAT PACKERS' THERMOMETERS



No. 220



No. 240



No. 230

Price, per doz.

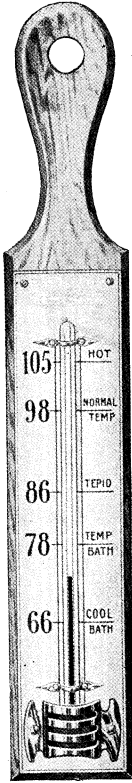
- |         |  |         |
|---------|--|---------|
| No. 220 | 18" Wood case "V" shaped thermometer with handle, black oxidized scale, brass trimmings mercury filled tube, approximate range of scale 0 to 230° F..... | \$30.00 |
| No. 230 | 15½" Wood case "Strop" handle thermometer, black oxidized scale, mercury filled tube, approximate scale range 0 to 230° F.....                           | \$27.00 |

## HAM AND SAUSAGE BOILING THERMOMETERS

Price, per doz.

- |         |  |         |
|---------|--|---------|
| No. 240 | 16" Wood case insulated glass thermometer, paper scale with specifications showing how long and at what temperature ham, bolognas, and sausages should be boiled; approximate range, 30 to 220° F..... | \$30.00 |
|---------|--|---------|
- See "Water Boil" temperature thermometers, page No. 10.  
For Meat Testing Thermometers, see page No. 76.

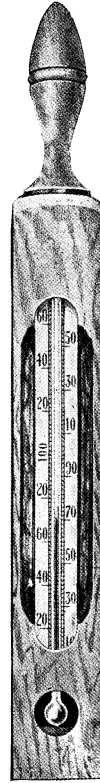
BATH THERMOMETERS



No. 240



No. 250



No. 260

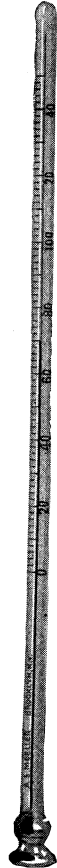
		Price, per doz.
No. 240	12" Bath thermometer with remarks in accordance with Dr. Forbes' specifications, hardwood case, nickered scale, large magnifying mercolor tube, approximate range of scale 60 to 110° F.....	\$27.00
No. 250	6" Glass floating bath thermometer, enclosed scale, mercury tube, approximate range of scale 30 to 120° F. Remarks in accordance with Dr. Forbes' specifications...	\$8.00
No. 251	6" Glass floating thermometer with spirit tube, otherwise the same as No. 250.....	\$7.50
No. 252	10" Glass floating cylinder thermometer with mercury tube, approximate range of scale 0 to 220° F.....	\$12.00
No. 253	10" Glass floating cylinder thermometer with mercolor tube, otherwise the same as No. 252.....	\$11.50
No. 260	Wood case floating bath thermometer, enclosed scale, mercury tube, 0 to 140° F.....	8" 10" \$12.00 14.00
No. 261	Wood case floating bath thermometer, mercolor tubes otherwise the same as No. 260.....	\$11.50 13.50

## PHOTOGRAPHERS' THERMOMETERS

For Developing and Toning Bath



No. 280



No. 270



No. 290

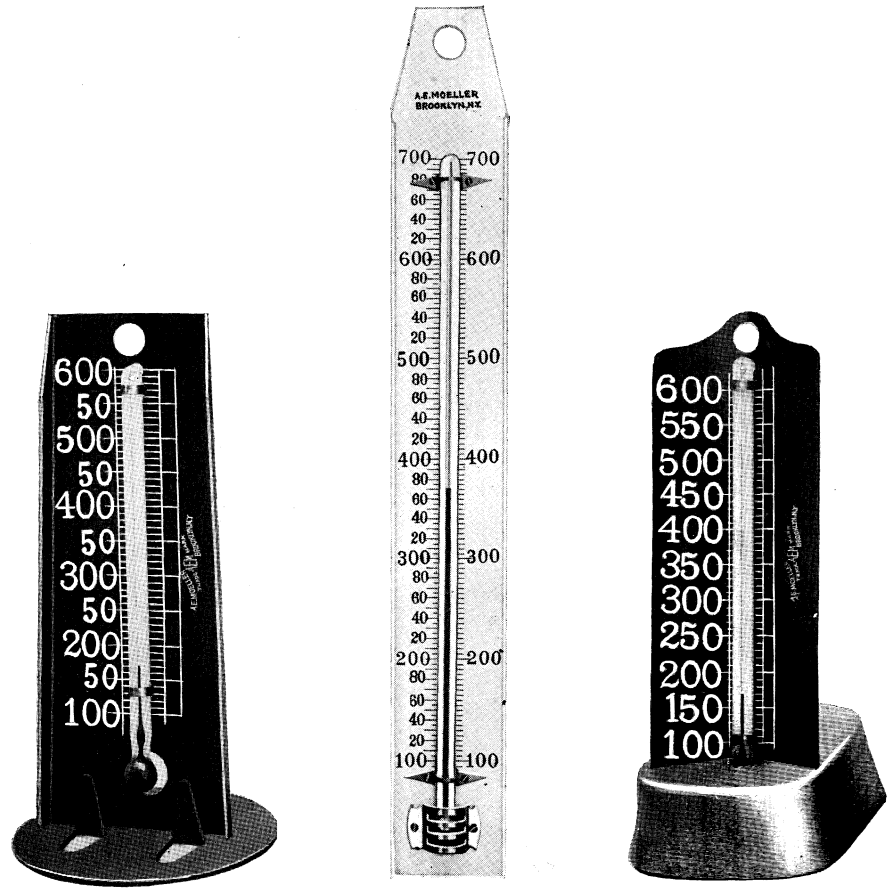
- |         |   | Price, per doz. |
|---------|---|-----------------|
| No. 270 | 9" Glass stirring rod thermometer with plunger bulb, engraved on stem, mercury filled, 0 to 120° F.....   | \$15.00         |
| No. 280 | 4½" Photo tank thermometer, silvered brass scale, mercury tube, with hook for hanging in tank.....        | \$9.00          |
| No. 290 | 4" Photo tray thermometer, oxidized brass scale, mercolor tube, with spring clamps to fasten to tray..... | \$6.00          |

## PHOTOGRAPHERS' HYDROMETERS OR ACTINOMETERS

- |          |  | Price, per doz. |
|----------|--|-----------------|
| No. 1714 | Mercury weighted, scale range 0 to 80° in one degree graduations ..... | \$18.00         |
| No. 1715 | Shot weighted, scale range 0 to 80° in one degree graduations .....    | \$12.00         |
- Sealed for 60° F; approximate length 5". Each in a box with test jar.



## JAPANNING AND BAKE OVEN THERMOMETERS



**No. 310**

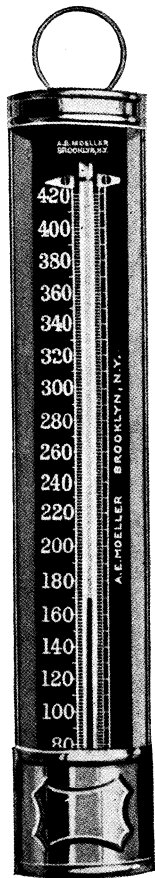
**No. 300**

**No. 320**

- |                |  | Price, per doz. |
|----------------|--|-----------------|
| <b>No. 300</b> | 14" Japanning oven thermometer, silvered brass scale flanged on both sides for reinforcing the instrument, with large magnifying mercury tube, scale range 100 to 700° F | \$27.00         |
| <b>No. 310</b> | 5" Bake oven thermometer with removable asbestos insulated brass base, oxidized scale, magnifying mercury filled tube, scale range approximately 100 to 600° F.....      | \$24.00         |
| <b>No. 320</b> | 5" Fireless cooker thermometer with nicked brass base, magnifying mercury filled tube, scale range approximately 100 to 650° F.....                                      | \$24.00         |

The above thermometers are made of hard glass and are guaranteed not to change their reading when used at the highest temperature indicated on the thermometer.

## MINERAL OR COAL OIL THERMOMETERS



No. 330



No. 340

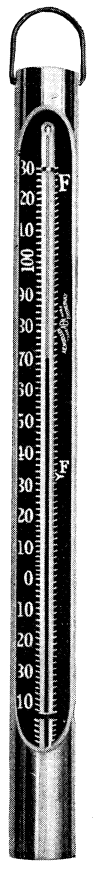


No. 350

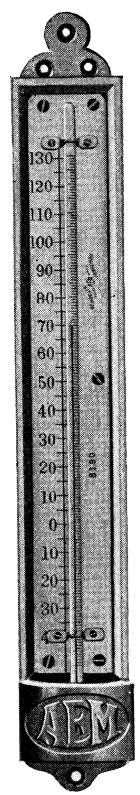
		Price, per doz.	
No. 330	Copper cup case thermometer, large magnifying mercury filled tube screwed with strong clips to black oxidized brass scale, approximate scale range 80 to 420° F .....	10"	12"
		\$30.00	36.00
No. 340	Wood case "V" shaped thermometer with brass cup, black oxidized brass scale, white filled figures, approximate scale range, 0 to 230° F.....	12½"	
		\$30.00	
No. 350	Cylindrical brass cup case thermometer, black oxidized brass scale, 1" diameter, magnifying mercury filled tube, 0 to 220° F.....	10"	12"
		\$30.00	36.00
No. 351	Copper cup case thermometer, 1½" diameter, approximate range 0 to 130° F, otherwise same as No. 350..	10"	
		\$33.00	

For all glass thermometers, see pages No. 77 to No. 80 inclusive.

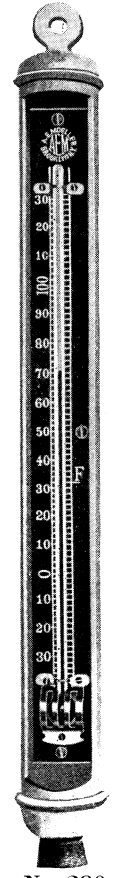
## REFRIGERATION THERMOMETERS



**No. 360**



**No. 370**

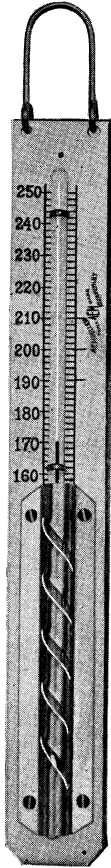


**No. 380**

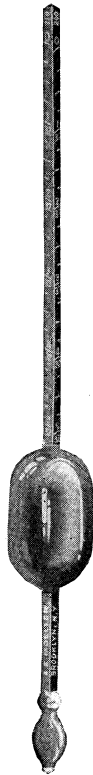
- |                |   | Price, each |                       |
|----------------|---|-------------|-----------------------|
| <b>No. 360</b> | 12" Cylinder brass case shiphold thermometers, 1" diameter, magnifying mercolor tube, oxidized brass scale, approximate range of scale minus 40 to 130° F.....  | \$36.00     | <b>Price per Doz.</b> |
| <b>No. 370</b> | 13" Iron case nickel plated thermometers with silvered brass scale, degree lines engraved on tube, the 5 and 10° lines and numbers stamped on a 10" metal scale with mercury tube; approximate range of scale minus 30 to 120° F. | \$54.00     |                       |
| <b>No. 371</b> | 13" Iron case nickel plated thermometer, same as No. 370 but with 10" oxidized scale, white figures and mercolor tube; approximate range of scale, minus 40 to 120° F....   | \$48.00     |                       |
| <b>No. 380</b> | 15" Galvanized iron frame shiphold thermometer 1¼" diameter, with rubber rings and buffer to prevent breakage. Black oxidized scale, white filled figures, with mercolor tubes; approximate range of scale minus 30 to 130° F.... | \$48.00     |                       |

## SALINOMETER POTS WITH THERMOMETERS AND HYDROMETERS

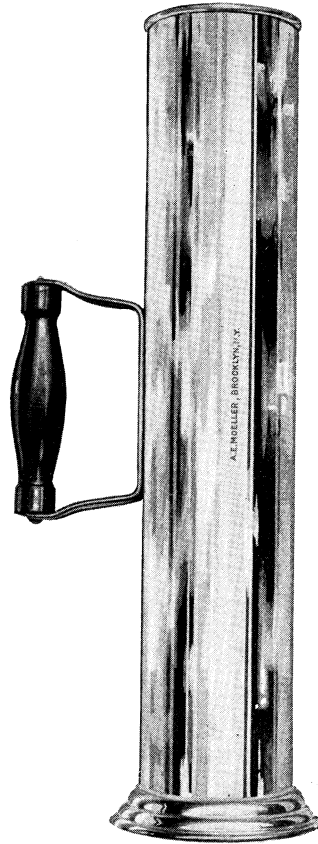
For Marine Use



No. 390



No. 1690

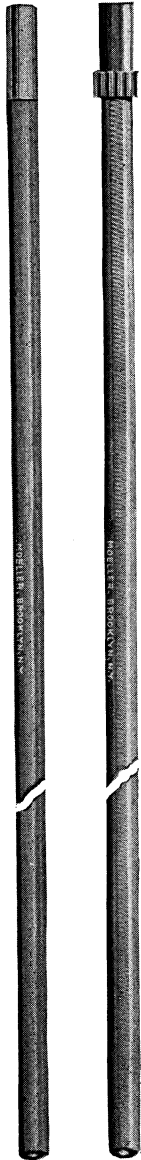


No. 400

- |          |   |                       |
|----------|---|-----------------------|
|          |   | Price, per doz.       |
| No. 390  | 8½" Salinometer thermometer, silvered brass scale guarded, magnifying mercury tube, with spring on back to prevent sliding in salinometer pot, range of scale 150 to 250° F | \$30.00               |
| No. 400  | 15" Heavy salinometer pot with handle, without thermometer or hydrometer.....   | Price, each<br>\$6.00 |
| No. 401  | 15" Heavy salinometer pot with file handle and sleeve protector .....   | \$12.00               |
| No. 402  | Long's salinometer pot, brass, highly polished, complete with thermometer and hydrometer.....   | \$65.00               |
| No. 1690 | 10" Metal salinometer hydrometer graduated from 0° to 5/32° in three temperature scales, 190°, 200°, and 210° F.  | \$10.00               |
|          | Glass salinometers, see page No. 90.  |                       |

## SOUNDING TUBES AND FATHOM RULES

### Instruments for Marine Use



No. 410 No. 420

- Price, per case
- No. 410 Simplex Chemical sounding tube, (Lord Kelvin type), calibrated, hermetically sealed top, single coated, give instantaneous clear marking, packed ten in an air-tight black japanned tin case. . . \$5.00

(Patent Pending)

- No. 420 A. E. M. Spiral ground glass sounding tube, clear marking, calibrated with rubber top for repeated use; ten packed in a moisture proof black japanned tin case . . . . . \$25.00

(We furnish the U. S. Navy with these tubes)

- Price, per doz.
- No. 430 Fathom rule, hardwood, varnished finish, single slotted with stop, black figures graduated from 5 to 100 fathoms. . . . . \$24.00

(Preferable for Ground Glass Tubes)

- No. 431 Fathom rule, hardwood, varnished finish, with stop, double slotted (white and black) for chemical and ground glass sounding tubes, with black filled figures, graduation from 5 to 100 fathoms \$36.00

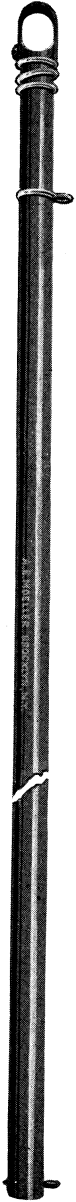


No. 430



## SOUNDING SHEATH AND LEAD

Instruments for Marine Use



No. 440

No. 440 Brass sounding sheath, nickeled, with interior shock absorbing spring, projecting eyelets and hold-tight locking device..... \$42.00

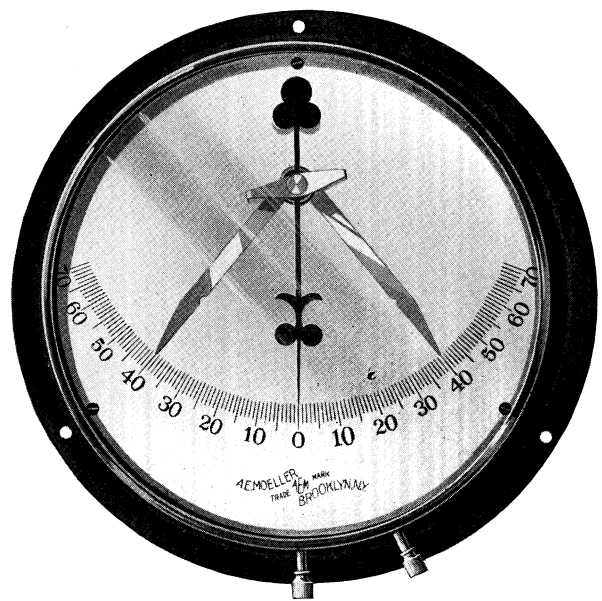
Price, per doz.

No. 450 34" Galvanized sounding lead, rod with 3" forged ring, cast iron base with 1 $\frac{5}{8}$ " tallow core; approximate weight 25 lbs. .... \$120.00



No. 450

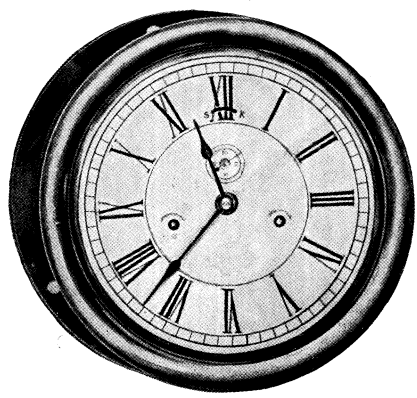
## SHIPS CLINOMETER



**No. 460**

**No. 460** 10½" Ships clinometer, glass front, brass black oxidized flanged case, 9" silvered dial with 6" stell pointer; graduated from 0 to 70° in either direction with two brass indices for indicating the maximum roll; with readjusting device, agitator and stay; each packed in a box..... Price, each \$50.00

## MARINE AND LOCOMOTIVE CLOCKS

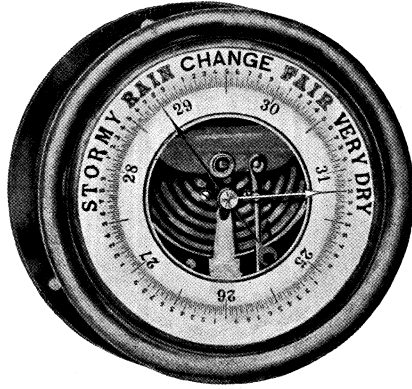


**No. 470**

**No. 470** Eight day Marine clock, can be furnished in deep brass, nickel-ed or black enameled case with hinged ring and snap lock, Seth Thomas movement.

Size of Dial	Brass Case	N. P. Case O. G. or Oct. Ring
12"	\$90.00	\$94.00
10"	65.00	68.00
8½"	55.00	57.00
6¾"	45.00	47.00

## SHIPS ANEROID BAROMETERS



**No. 480**

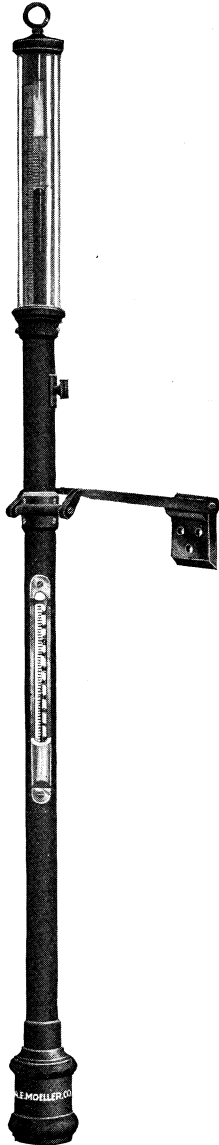
**No. 480** 6" Dial Marine barometer, glass front, compensated, black oxidized flanged case, metal dial with reference pointer, graduated in two-hundredth inches from 25 to 31 inches. . . . . Price, each  
\$36.00



**No. 490**

**No. 490** 6" Aneroid Barometer highly polished brass case with feet and suspencory ring, beveled glass front, exposed movement with reference pointer, divided in two-hundredth inches from 26 to 31 inches. . . . . \$20.00

## MARINE BAROMETER



**No. 500**

The construction of the Marine Barometer, as used by the U. S. Navy, varies from the Fortin's principle, inasmuch as the error of capacity is overcome by graduating the scale, not in the true measurements, but by an empirical correction depending on the relative diameter of the tube and cistern so that the slightest deviation of mercury in the cistern, caused by the rise and fall of that in the tube, compensates itself. To prevent violent oscillations of the mercury column due to the movements of the vessel, the lower part of the tube is contracted to a capillary diameter.

To prevent air bubbles from reaching the top, the tube is provided with an air trap. The glass tube is protected by a casing of brass, terminating in a ring for suspension, and at the bottom the case for the mercury cistern is attached. The upper part of the casing is cut through so as to expose the mercury column, near which is fastened the scale

The vernier is controlled by a rack movement actuated by a thumb screw near the glass cylinder, which protects the scale and inner parts from dust and corrosion.

The barometer is suspended by a hinged gimbal arm which serves to keep the instrument in a perpendicular position regardless of the action of the ship. A thermometer is centrally located to get the mean temperature of the mercury column.

- |                |  | Price, each |
|----------------|--|-------------|
| <b>No. 500</b> | Marine barometer, black oxidized brass case with German silver scale divided in tenths from 26" to 31"; vernier reading to $\frac{1}{100}$ ; bore of tube $\frac{5}{16}$ ; engraved stem thermometer, Gimballed arm; in carrying case..... | \$50.00     |

## STANDARD OBSERVATORY BAROMETER

### Fortin's Type

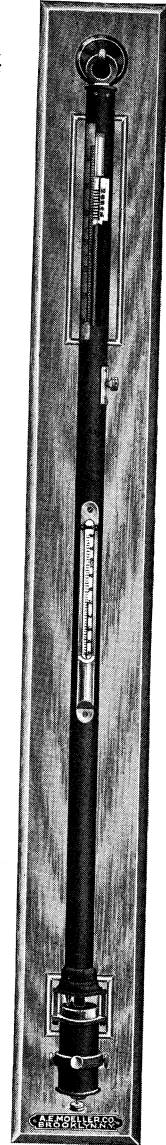
The Observatory Barometer consists of a glass tube filled with mercury enclosed in a brass casing on the upper end of which are two longitudinal openings so that the level of the mercury can be seen. The reading is taken through these openings aided by light reflected from the white opaque glass reflector in back of the barometer. The vernier is controlled by a rack movement actuated by the thumb screw near the scale of the case.

The thermometer is centrally located to get the mean temperature of the mercury column and is so constructed that the bulb is only affected by the temperature surrounding the barometer tube. This is a matter of great importance, as the temperature of the barometer column must be taken into consideration while taking a reading.

At the bottom of the case is the cistern which contains the mercury. It consists of a glass cylinder through which the mercury can be seen, and is held in place by two metal disks in the top of which is fastened an ivory point. The extreme end marks to zero of the scale above. The lower portion is made of leather and serves to adjust the barometer before taking the reading and also to facilitate the shipping of the barometer. The latter is accomplished by raising the threaded screw at the extreme lower end until the entire glass cistern and tube is filled with mercury.

The barometer is suspended by a ring from a brass bracket, attached to a wood base and the lower end passes through a large ring, having three set screws, for its true vertical adjustment.

To facilitate the reading of the barometer, place it near a window, preferably the left side, and lower the mercury by turning the screw at the extreme lower end of barometer until the mercury comes on the level with the extremity of the ivory point. To perfect this adjustment, see that the mercury just makes visible contact; if the mercury is too high a distinct depression can be seen on the surface. Reduce the depression to the least visible degree; then the mercury adjustment is properly made. By means of thumb screws bring the lower edge of vernier on top of convex of mercury in the tube so that the light between the vernier and mercury is just cut off. When light is visible the vernier is still too high, but when light is entirely cut off the vernier is too low. Instructions and table of thermometric adjustment will accompany each barometer.

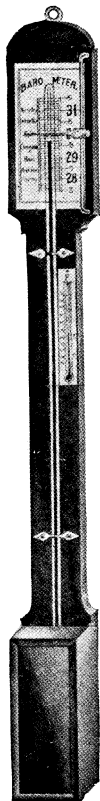


**No. 510**

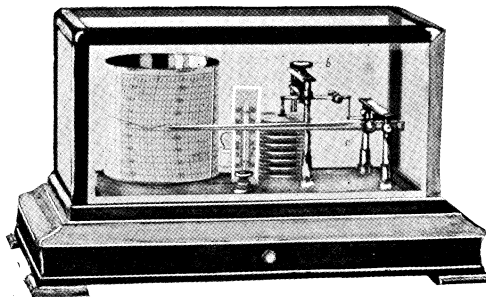
	Price, each
<b>No. 510</b> Observatory barometer, black oxidized, silvered brass scale divided in $\frac{1}{40}$ " from 26 to 31".....	\$60.00
Oak board with opal glass reflectors, suspension hook and steadying screws .....	\$10.00
Glass cover for protecting the scale.....	\$3.50

## SELF-RECORDING ANEROID BAROMETER OR BAROGRAPH

	Price
<b>No. 530</b> Self-recording Aneroid Barometer or Barograph. This instrument consists of a self-recording mechanism and an eight day clock movement in a brass cylinder, on which is placed the chart for receiving the indications of the barometric pressure of the air, inclosed in a beveled glass mahogany case with front open drawer for used and unused charts .....	\$50.00
Can be supplied with an artistic wall shelf.....	5.00
Extra charts for one year.....	2.00
Extra pen .....	1.00
Extra bottle of ink.....	.50



**No. 520**



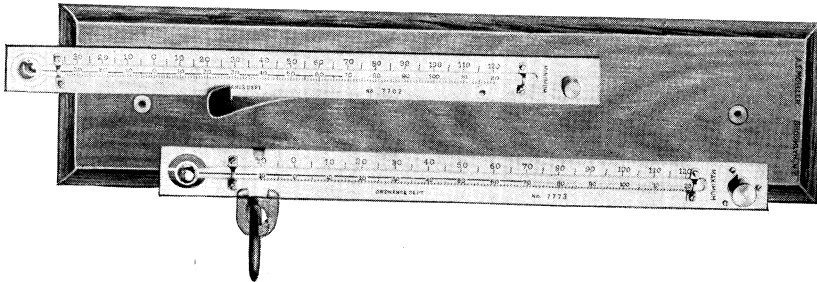
**No. 530**

<b>No. 520</b> Home Barometer, polished hard-wood frame with closed cistern, white scale divided into one-tenth inches, with reference pointer and thermometer .....	\$10.00
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## MAXIMUM AND MINIMUM THERMOMETERS

Weather Bureau Pattern



**No. 550**

Maximum and Minimum set consists of two thermometers mounted together on a suitable base. The Maximum thermometer is filled with mercury. The bore of the tube near the bulb is contracted so that when the temperature rises, the mercury forces its way through the constriction. When the temperature falls, the mercury column breaks at the constriction and remains in the bore, thereby indicating the highest temperature. The instrument is provided with a suitable support upon which it can be safely rotated and when the centrifugal force is sufficient the mercury returns, and the instrument is ready for the next observation.

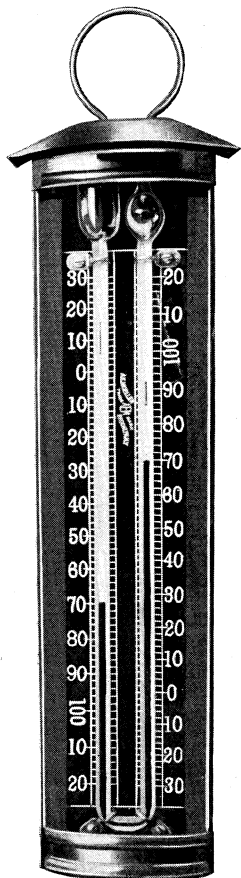
The Minimum thermometer has, as the expanding medium, alcohol, and in the bore of the glass tube is an index. When the temperature falls, the alcohol recedes and carries with it the index. When the temperature rises the alcohol alone ascends the tube, leaving the index at its lowest point thereby indicating the minimum temperature. By raising the bulb end of the thermometer the index flows to the front of the tube and is ready for the next observation.

Price, each

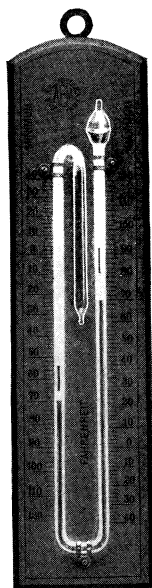
**No. 550** Maximum and Minimum set, round bulb tube, engraved on stem, mounted on a 12" aluminum scale on which are marked every five degree line of the scale, and the figures every ten degrees. Brass insulating straps and rotating support with locking device mounted on highly polished oak base..... \$18.00

## SELF-REGISTERING THERMOMETERS

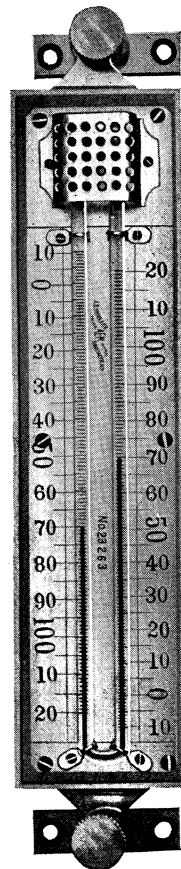
Maximum and Minimum—Six's Pattern



No. 575



No. 585



No. 590

		Price, per doz.	
		Each in a box	
No. 575	Copper case black oxidized brass scale, tube with indexes to show the maximum or minimum temperatures; approximate range of scale from 10 to 40° below zero to 120° F.....	\$66.00	10" 72.00
No. 580	Back japanned tin case, otherwise same as No. 575..	50.00	66.00
No. 585	Imitation boxwood Six's thermometer; approximate scale range, minus 30 to 120° F.....	40.00	10"
No. 590	10" Bronze case Six's thermometer with brackets, degree marks etched on tube, the fifth line drawn on the brass scale and numbered every ten degrees; silvered scale; approximate scale range minus 10 to 120° F. as used by the U. S. Government.....	15.00	10"

The above instruments are furnished with magnets.  
For detailed description, see page No. 31.

## HYGROMETERS, WET AND DRY BULB

For All Purposes.

The Mason Hygrometer is an instrument to determine the amount of humidity in the air. It consists of two accurate thermometers placed side by side, on a suitable back with a cistern for water between or below them.

The thermometer marked "Wet" has its bulb covered with a silk wick which passes down into the water cistern and keeps the bulb fully saturated (100%). The other thermometer marked "Dry" is exposed to the air. By the difference in the reading of the wet and dry bulb the exact percentage of moisture in the air can be obtained. Should both the thermometers give the same reading it is a sure indication that the air is filled with humidity of 100% and when the air is very dry the thermometers will show a great difference in reading.

By the use of tables which we furnish with each hygrometer, the point at which the air would begin to deposit moisture, known as the dew point, and the percentage of humidity in the air, are readily ascertained.

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## MAXIMUM AND MINIMUM THERMOMETERS

Six's Type.

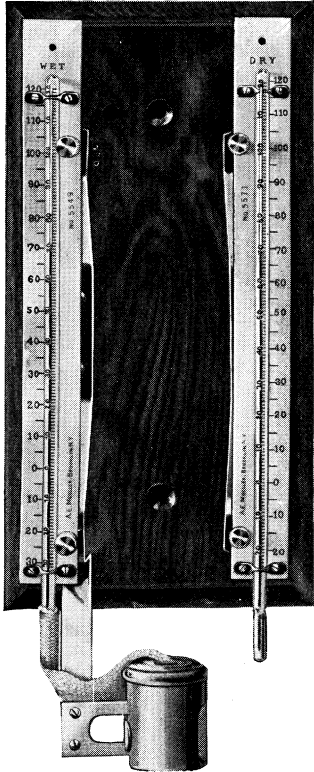
The Six's type self-registering thermometer is an instrument which registers the maximum and minimum temperature during a period of time and also indicates the present existing temperature.

It consists of a thermometer tube bent in the shape of a "U", the lower part of which is filled with mercury. The upper end of the tube to the left terminates in a bulb and is filled with creosote and acts as the expanding medium of the instrument. The right side of the "U" tube has a conical shaped bulb and is also partly filled with creosote under pressure, which counter-balances the pressure exerted by the expansion of fluid in the bulb on the opposite side. Both tubes contain a small glass index which can be influenced by a magnet for the purpose of setting the instrument for observation.

When the temperature rises, the creosote in the bulb of the left side tube expands and forces the mercury up in the right side and carries with it the glass index which is held in place by a delicate glass spring. When the temperature falls, the creosote recedes, and the counterpressure of the other bulb forces the mercury in the opposite direction taking with it the minimum index and marks the minimum temperature.

PSYCHROMETERS

Weather Bureau Pattern



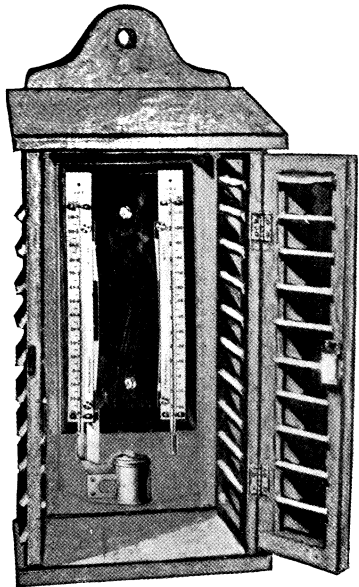
No. 600

Price, each

No. 600 Psychrometer, Weather bureau pattern, engraved mercury tube, cylindrical bulb, mounted on aluminum scale which is marked with a line every five degrees of the scale, and the figures every ten degrees. Brass insulating straps with binding thumb screws and cistern. Humidity table accompanies each instrument . . . . . \$18.00

Price, each

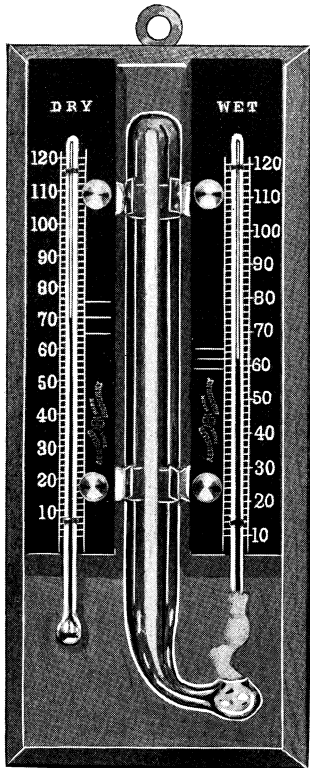
No. 610 Psychrometer shelter with sloping top, louvered front and sides with lock and key. Without hygrometer \$18.00



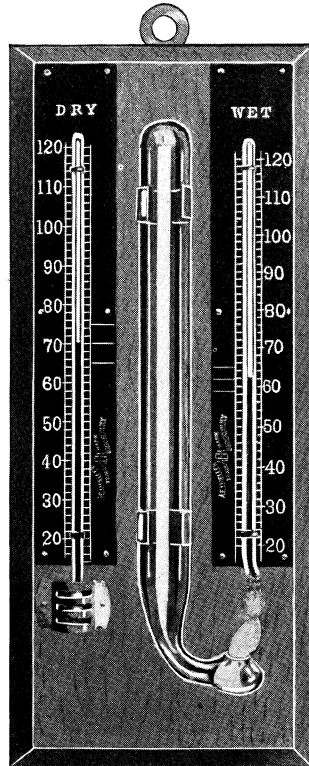
No. 610

## MASON HYGROMETERS

Wet and Dry Bulbs



No. 650

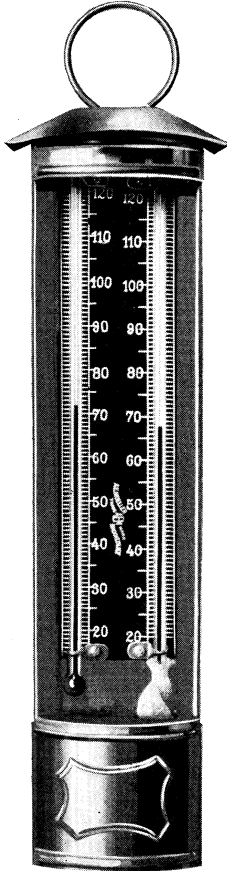


No. 655

- |  | Price, per doz. |
|--|-----------------|
| <b>No. 650</b> Mason hygrometer for determining the relative and absolute humidity, and fore-telling frost, with humidity reference table. Magnifying mercury filled tubes, black oxidized brass scales raised by brass insulating straps to assure free circulation of air around the bulbs. Glass siphon water container mounted on polished oak base. Approximate scale range 10 to 120° F..... | \$60.00         |
| <b>No. 655</b> 11" Mason hygrometer with lines drawn on scale for convenience in maintaining a humidity of 50% at normal temperature in the living room, not insulated otherwise same as No. 650 .....   | 48.00           |
| <b>No. 660</b> Mason hygrometer, scale range 220° F, otherwise same as No. 650 .....   | 72.00           |
| For detailed description see Page No. 31. (Use distilled water if possible.)   |                 |
| Extra Wicks .....  | 1.20            |

## OUTDOOR HYGROMETER

Foretelling Frost

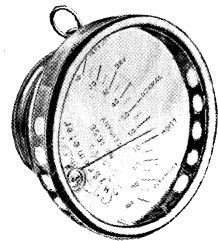


**No. 675**

- |  | Price, per doz. |
|--|-----------------|
| <p><b>No. 675</b> Outdoor hygrometer, black japanned tin case with water cistern, magnifying mercury filled tubes screwed with strong clips to oxidized brass scale; approximate range of scale, 20 to 120° F.....</p> | \$48.00         |
| <p><b>No. 680</b> Outdoor hygrometer, copper case, otherwise same as No. 675.....</p>  | 60.00           |

- |  | Price, per doz. |
|--|-----------------|
| <p><b>No. 685</b> Patent spiral hygrometer, 2" dial, spun brass nickel plated case with scale denoting humidity of the air without reference to table.....</p> | 24.00           |

(For detailed description, see page No. 29)



**No. 685**

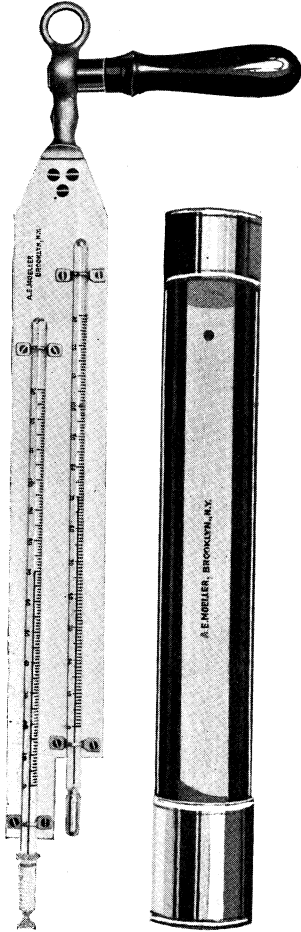


## SLING PSYCHROMETER

or

Whirling Hygrometer

The sling psychrometer was constructed for the purpose of obtaining quick and more accurate results than is possible with the stationary hygrometer.



**No. 700**

### Directions for Using The Sling Psychrometer.

Saturate the covered bulb with clear water. Take care that the bulb of the opposite thermometer does not get wet. Whirl the instrument at arms length for some time. Read the wet bulb thermometer every 15 seconds until it will register the same at two consecutive readings.

At temperatures below 32° F. the wet bulb thermometer must be treated in the following manner. Apply water sparingly to the bulb with a soft brush. An ice coating will form on the fabric but evaporation will go on as in other hygrometers.

Note: Use distilled water at atmospheric temperature if possible. See that the bulb covering is tight against the bulb and thoroughly wet. When wick is dirty replace with a new one.

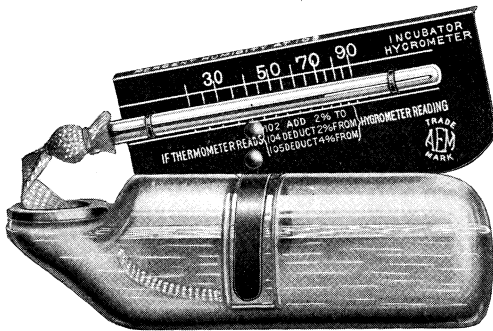
Price, each

**No. 700** 17" Sling psychrometer with handle, aluminum back, engraved on tubes in single degrees; approximate range of scale, 0 to 120° F.; with copper protection case..... \$15.00

## INCUBATOR HYGROMETERS AND THERMOMETERS

Many chicks perish for the want of proper moisture conditions, therefore it is of the greatest importance to regulate the moisture to overcome these great losses.

With an A. E. M. incubator hygrometer in a machine the moisture conditions can be exactly determined, and if not correct, can be made so by placing wet sand or shallow pans of water under the egg tray; or by increasing or decreasing the ventilation according to its surroundings.



No. 785

Price, per doz.

**No. 785** Incubator hygrometer, glass water cistern, well seasoned tube, Jena glass bulb, oxidized scale, denoting humidity of air in the incubator without reference to table at incubating temperature . . . . . \$18.00



No. 786

**No. 786.** Incubator thermometer and hygrometer combined, tells you the exact moisture, as well as the correct temperature in your incubator. It takes the place of one egg in the egg tray, thus showing the actual conditions surrounding the egg. The necessary corrections are stamped on the hygrometer scale, so that there is nothing complicated about using same. . . . . 42.00

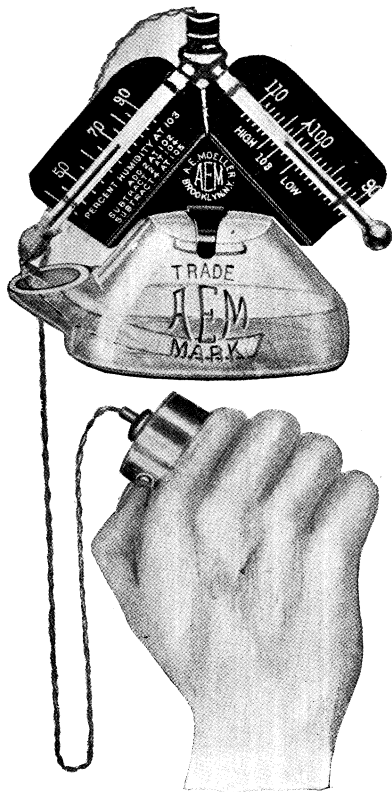
Extra Wicks . . . . . 1.20

For directions on how to use hygrometers, see page No. 37.

## ELECTRIC LIGHTED INCUBATOR THERMOMETERS AND HYGROMETERS

Patented

The difficulty in reading the thermometer is eliminated by the use of the A. E. M. Patented Electric Lighted Incubator Thermometer and Hygrometer combined. A touch illuminates the tubes lengthwise, in such a manner that it is impossible to make a mistake in reading.



No. 786 E

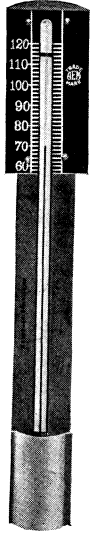
### How To Use the A. E. M. Hygrometers

Fill the glass bottle with clean water (preferably rain water) and insert the wick through the opening in the glass bottle. See that the wick is thoroughly saturated from end to end completely moistening the hygrometer bulb. See that the wick is kept clean. If clogged it does not draw the water up to the hygrometer bulb and consequently does not register correctly. The hygrometer is then placed among the eggs, and the electric cord passed through a small notch in the incubator door to the battery outside.

To observe a reading, press the button. The instrument will then be brilliantly illuminated so the reading can be made without difficulty.

Complete with battery case..... Price, per doz. \$72.00

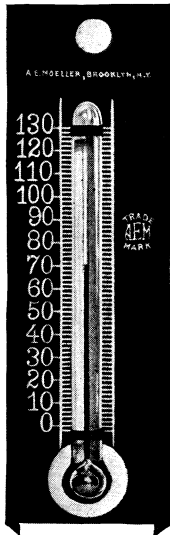
## INCUBATOR AND BROODER THERMOMETERS



**No. 720**



**No. 730**



**No. 740**

**No. 720** 8" Half-round wood brooder thermometer, (stem 5½"), designed to go through the top of the brooder or hover so that the temperature can be read from the outside. The tube is sunk in the wood to guard against breakage. Black oxidized brass scale with white figures and guard. Furnished with mercury tubes only . . . . . \$12.00

**No. 730** 10" Round wood brooder thermometer with handle designed to go through the top or side of hover, 1" diameter, lower part milled out for a 4" black oxidized brass scale thermometer, mercury filled tube; approximate scale range 0 to 130° F. . . . . 12.00

**No. 740** 4½" Metal brooder thermometer, black oxidized brass scale, flanged on both sides for reinforcing the instrument, with hole at top; approximate scale range 0 to 120° F. . . . . 12.00

**No. 741** 4½" Metal brooder without reinforcing flange, otherwise same as No. 740. . . . . 9.00

## THERMOMETER TIPS

Successful incubation of chicks depends more upon the accuracy and reliability of the thermometer, and the proper functions of the temperature control, than any other feature which comes into play.

Thermometers, plain as they appear to the layman, are scientific instruments and work on scientific principles; whether they register the temperature correctly or incorrectly depends upon the honesty and ability of the manufacturer, and it cannot be too strongly emphasized to select a first class instrument.

The A. E. M. Thermometer is backed by fifty years of thermometer experience during which time no expense has been spared in perfecting the A. E. M. thermometer in every detail.

### STEPS IN MAKING A. E. M. THERMOMETERS

After the tubing has been drawn and selected, the first step taken is to re-select it as to its size and uniformity of the bore. The glass is then cut into proper lengths and each piece is shaped at one end to receive the bulb.

The A. E. M. incubator thermometer bulbs are evenly blown of "Jena" 16 III glass and correctly joined to the stem.

### PROPER FILLING

A. E. M. Thermometers are filled with chemically pure mercury only, and the tubes and mercury are repeatedly heated before, during and after filling, until all moisture is completely roasted out, so that A. E. M. thermometers never stick, and indicate the falling temperature absolutely correct, no matter in what position they are placed.

Through a method of our own, all A. E. M. thermometer tubes are made thoroughly vacuum and there is no possibility of air separating the mercury column.

### AGEING OR SEASONING

Even though A. E. M. thermometer tubes are made from the best glass they are laid away for "Ageing" or "Seasoning" until the glass thoroughly adjusts itself before being pointed and scaled.

### TESTING AND SCALING

All A. E. M. Thermometers are pointed at three different points, 95, 100, and 105°. These are engraved on the tubes and are always visible for comparison.

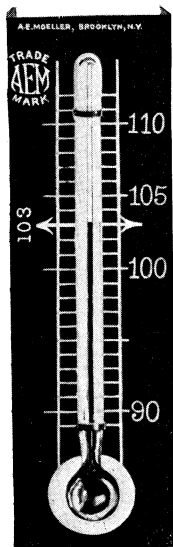
The test points of the tubes are transferred with special devices to the metal back, on which the division lines are separately cut to agree with that particular tube.

### FINAL TEST

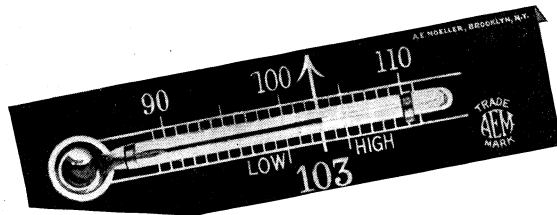
Outside of the three technical thermometer tests which are guided by instruments compared by the United States Bureau of Standards, a number of other tests are made, the last being made under actual incubator conditions, and if in any of these tests the slightest error or thermometer defect is found, the thermometer is rejected and not allowed to leave the A. E. M. factory, thus substantializing our guarantee of absolute accuracy.

## INCUBATOR THERMOMETERS

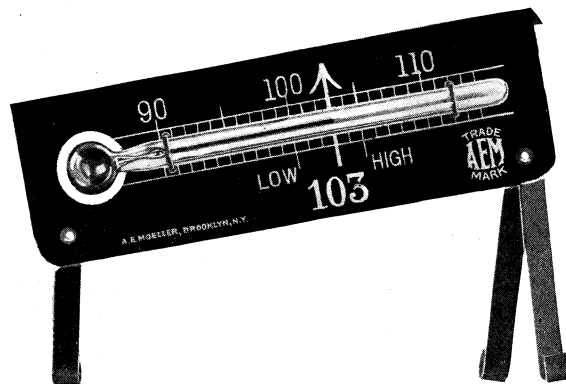
CONTINUED



**No. 750**



**No. 760**

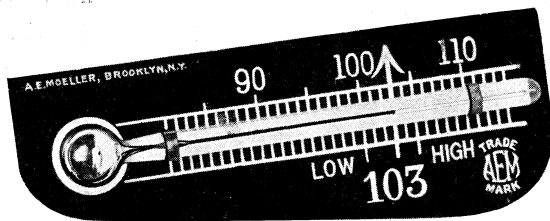


**No. 770**

- |                |  | Price, per doz. |
|----------------|--|-----------------|
| <b>No. 750</b> | 4" Wall type incubator thermometer, both sides flanged, rendering the scale very rigid. Well seasoned tube with Jena glass bulb. Easy reading scale with mercury tubes only .....  | \$12.00         |
| <b>No. 760</b> | Incubator thermometer, corner cut away so that the egg tray may be removed without disturbing the thermometer; with reinforced flange; easy reading, scale oxidized, well seasoned tube with Jena glass bulb. Mercury tubes only.. | 12.00           |
| <b>No. 770</b> | 4" Incubator thermometer with adjustable legs, well seasoned tubes, Jena glass bulb. Can be adjusted to the proper height for any incubator machine. Furnished with mercury tubes only .....                                       | 12.00           |
|                | For detailed description see page No. 39.  |                 |
|                | With Electric Lighting Device, add to list.....  | 30.00           |

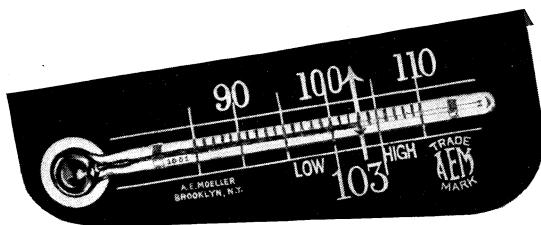
## INCUBATOR THERMOMETERS

CONTINUED



No. 780

No. 780	Incubator thermometer, most popular type, with reinforcing flange; easy reading, scale oxidized, well seasoned tube with Jena glass bulb. Made with mercury tube only.....	Price, per doz. \$12.00
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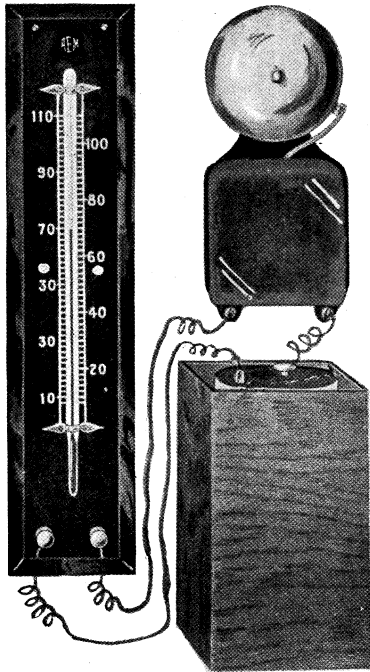


No. 780 C

No. 780C	Certified incubator thermometer, with the scale engraved on the glass so that if the tube should work loose on its mountings it would not diminish the efficiency of the instrument; black oxidized scale with reinforcing flange, well seasoned tube with Jena glass bulb. Made with mercury tube only .....	Price, per doz. 18.00
With Electric Lighting Device, add to list.....		30.00

Electric Alarm incubator thermometer, see next page.

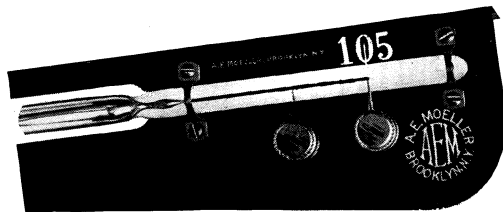
## ELECTRIC ALARM THERMOMETERS



**No. 795**

**No. 795** Fire alarm thermometer is an instrument made to give an alarm when abnormal change in temperature takes place, and is highly recommended for the home as well as the factory. The thermometer may be placed in various parts of the building where fire is likely to occur, and an alarm bell placed at any point desired. No. 795 is set to make a contact at 99° F. but may be changed to any other degree ..... \$10.00

War vessels of the United States Navy are now equipped with the A. E. M. Patented Electric Contact Thermometer.



**No. 790**

		Price, each
<b>No. 790</b>	Electric alarm incubator thermometer, closed circuit at 105° F., complete with wire, bell and battery.....	\$9.50
<b>No. 796</b>	Frost alarm thermometer to make a contact when the temperature falls to 32° F. Six's type.....	12.00



## A. E. M. MECHANICAL THERMOMETERS

The great variety of uses to which Thermometers are applicable and the varied conditions met with render it impossible to include in a general list a detailed description of the instruments applied to the various processes.

We have for years made a special study of the application of Thermometers for industrial purposes and invite the following industries to share our knowledge.

- Ammonia Manufacturers.
- Asphalt Refiners.
- Asphalt Pavers.
- Beef Extract Manufacturers.
- Beef Packers.
- Bakers.
- Bake Oven Manufacturers.
- Brewers.
- Canners.
- Canning Machinery Manufacturers.
- Confectioners.
- Confectionery Machinery Manufacturers.
- Coal Oil Refiners.
- Coal Tar Distillers.
- Candle Manufacturers.
- Chemical Manufacturers.
- Celluloid Manufacturers.
- Distillers.
- Electric Light Stations.
- Electric Railway Power Plants.
- Electric Manufacturing Processes.
- Enamel Cloth Manufacturers.
- Enameling Oven Manufacturers.
- Engineers, Consulting.
- Engineers, Mechanical.
- Engineers, Civil.
- Fruit Evaporators.
- Fertilizer Manufacturers.
- Glue Manufacturers.
- Gas Works.
- Garbage Reduction Plants.
- Glycerine Manufacturers.
- Hot Water Heating.
- Ice Manufacturers.
- Ice Machine Builders.
- Insulating Compound Manufacturers.
- Japan Manufacturers.
- Japanners.
- Lard Refiners.
- Lard Oil Refiners.
- Laundries.
- Laundry Machine Manufacturers.
- Lead Manufacturers.

- Linoleum Manufacturers.
- Linseed Oil Manufacturers.
- Lumber Dry Kilns.
- Malsters.
- Milk Condensers.
- Molasses Manufacturers.
- Nitro Glycerine Manufacturers.
- Oleomargarine Manufacturers.
- Oil Cloth Manufacturers.
- Oil Clothing Manufacturers.
- Patent Leather Manufacturers.
- Packers.
- Picklers.
- Preservers.
- Paint Manufacturers.
- Printing Ink Manufacturers.
- Pitch Melting and Refining.
- Plaster Calciners.
- Paper Mills.
- Pulp Mills.
- Perfumers.
- Powder Mills.
- Refrigerating Plants.
- Rubber Manufacturers.
- Solder Manufacturers.
- Soldering Machinery.
- Soap Manufacturers.
- Syrup Manufacturers.
- Sugar Refiners.
- Sugar Machinery Manufacturers.
- Shower Bath Manufacturers.
- Steam Fitters.
- Steam Heating Apparatus.
- Steam Power Plants.
- Textile Manufacturers.
- Textile Machinery Manufacturers.
- Tin Plate Manufacturers.
- Tin Can Manufacturers.
- Ventilating Apparatus.
- Vacuum Apparatus.
- Vinegar Apparatus.
- Varnish Manufacturers.
- Vulcanized Fibre Manufacturers.
- Wax Manufacturers.
- Yeast Manufacturers.
- And Many Others.

## HIGH TEMPERATURE THERMOMETERS

For Boiling

Varnish, Japan, Dryer, Linseed, Cottonseed and Castor Oil, etc., and for making Printing Ink, Rubber Compositions, Insulating Compounds, Oil Cloth, Linoleum, etc.

**Fig. 800** High temperature thermometer, 12" V shape aluminum or bronze case with handle and hanger, black oxidized scale with white graduations and figures. Jena borosilicate glass tube, approximate scale range 200 to 650° F. Aluminum casted bulb guard. Stem 1" heavy seamless brass tubing.



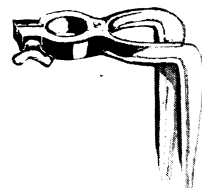
Length of Stem, 24 inches.....	\$32.00
Length of Stem, 36 inches.....	36.00
Length of Stem, 48 inches.....	38.00

Thermometers with longer stem, prices upon application.

Price for thermometers without handle but with ring top hanger, less \$2.00 each.



A-1



A-5

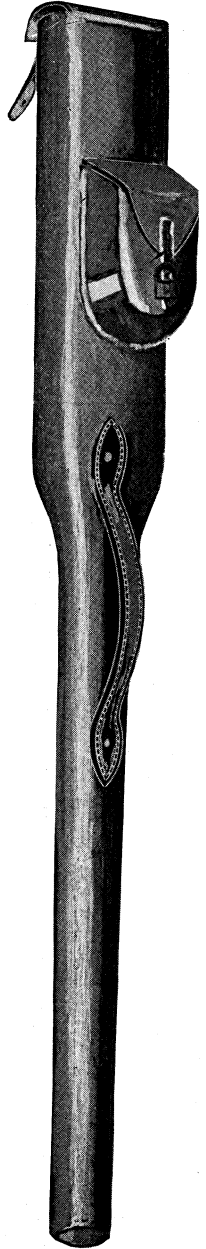
	Price, each
No. A-1 Adjustable clamp flange.....	\$3.50
No. A-5 Adjustable clamp hook.....	3.50

**Fig. 800**

## FLUE GAS OR HIGH TEMPERATURE THERMOMETERS

Economy in fuel consumption is a matter of great importance. The temperature of the escaping waste gases indicate to a certain degree whether the furnace is constructed or regulated to secure the best results from combustion.

The A. E. M. Flue Gas thermometer is preferable to any pyrometer or similar instrument on account of its permanent accuracy and reliability. Its construction is such that it will indicate accurately the temperature of flues, chimneys, breeches and economizer chambers.



**Fig. 811**

**Fig. 810** Flue gas thermometer, 12" Price, each  
 V shape aluminum case with hanger, nickel plated stem of 1 1/4" seamless steel tubing 30" long including perforated bulb guard. Jena Borosilicate glass tube, approximate range of scale 200° to 1000° F. This type of instrument is usually used by traveling consulting engineers and can be furnished with leather carrying case . . . . . \$46.00

**No. A-2** Adjustable clamp flange . . . . . 3.50

Thermometer with longer stem.

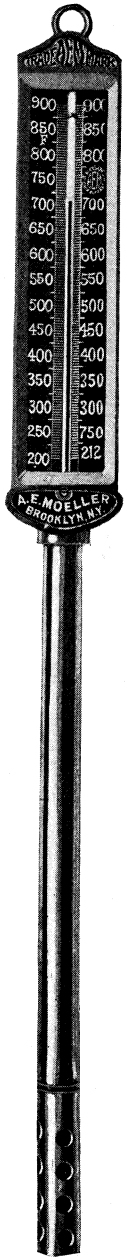
Prices upon application.

For angle thermometer, add to list . . . . . 2.00

**Fig. 811** Leather carrying case . . . . . 15.00



**A 2**



**Fig. 810**

## HAND TESTING THERMOMETERS

### Long Stem

For Confectioners, Bakers, Brewers, Canners, Dairies, Packers, Preservers, Sugar Refiners, Glue and Soap Manufacturers.

Fig. 820

Size of Scale case	Length of Stem including bulb guard	Temperature Range	Price Each
7"	18"	not above 300° F.	\$30.00
7"	24"	" " " "	32.00
7"	36"	" " " "	35.00
9"	18"	to 500° F	31.00
9"	24"	" "	33.00
9"	36"	" "	36.00
12"	24"	to 650° F	32.00
12"	36"	" "	34.00
12"	48"	" "	37.00
12"	60"	" "	40.00

Fig. 830 Thermometer with fixed 1" pipe thread but without handle, same price as above.

Price, each

Thermometers with range of scale over 650°, add to list . . . . \$10.00

No. A-6 Bracket for holding thermometer . . . . . 3.00

For detailed description, see page No. 53.



Fig. 820 Hand Testing

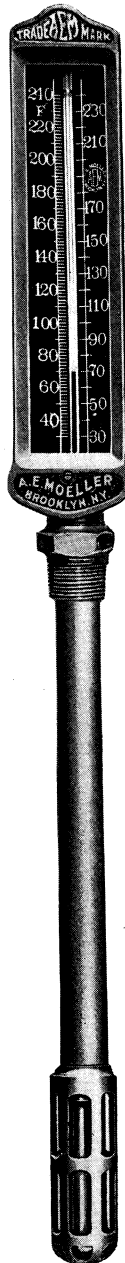


Fig. 830 Long Stem Fixed Thread



A 6

## A. E. M. LONG STEM THERMOMETERS

Union Connection with Regular or Combination Stem Arrangement.

For the purpose of extending thermometers in apparatus tanks or pipes below the surface of floors, the union nut may be placed at any point on the stem between the case and the bulb chamber. The stem can be furnished any length so that the case can be brought in any position for convenient reading.

With inclined or reclined cases, add to list \$2.00

Can be furnished with Union Bushing, Flange Connection, or Separable Socket.

**Fig. 840** 9" Scale case, Union Bushing Connection, 1" S. P. Thread.

Length of Stem	Price, each
6" .....	\$22.00
12" .....	24.00
18" .....	26.00
24" .....	28.00
30" .....	30.00
36" .....	32.00

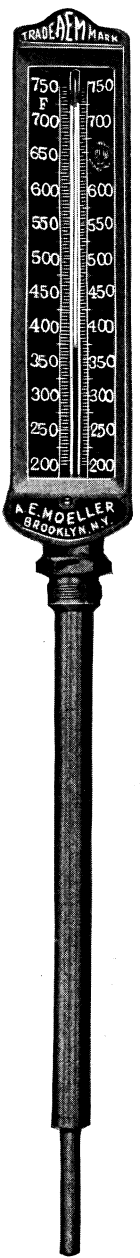
12" Scale case, Union Bushing Connection, 1" S. P. Thread.

Length of Stem	Price, each
6" .....	\$25.00
12" .....	27.00
18" .....	29.00
24" .....	31.00
30" .....	33.00
36" .....	35.00
48" .....	37.00
60" .....	41.00
72" .....	45.00

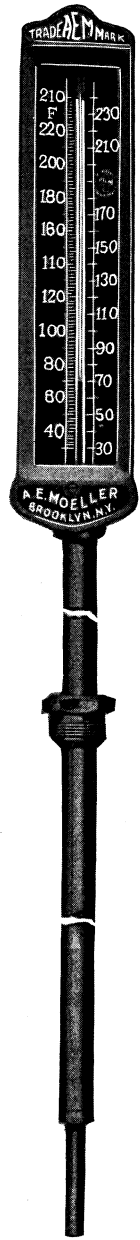
With Union Flange Connection, add to list \$3.50

**Fig. 850**, add to the above prices..... 1.00

Price for separable socket, see page No. 49.



**Fig. 840**  
Long Stem  
Union  
Connection



**Fig. 850**  
Combination  
Stem Union  
Connection

## A. E. M. MECHANICAL THERMOMETER

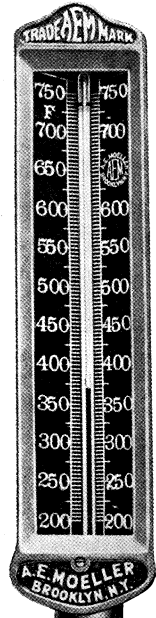
Compound Stem, Union Connection  
Fig. 860.

For the purpose of clearing pipe and other obstructions, the union nut may be placed at any point on stem between the bulb chamber and angle connection to suit the situation.

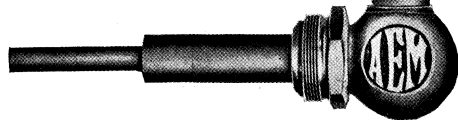
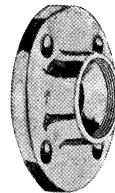
The stem between the case and angle connection can be furnished any length so that the case can be brought into any position for convenient reading.

When calculating the cost of thermometer with compound stem, measure the length of angle and straight stem, combine the two and see list of long stem thermometers on page No. 47.

- |   |   |
|---|---|
| Select connection and add to list.....            | \$3.00  |
| For inclining or reclining case, add to list..... | 2.00  |
| <b>No. A-3</b> Flange .....                       | <div style="text-align: center; font-size: small;">Price, each</div> \$4.00 |



**A-3**  
Flange



**Fig. 860**  
Compound Stem Union Connection

## SEPARABLE SOCKET FEATURE



**Fig. 870**

Separable Socket  
Connection

The separable socket is a practical strong form of connection well machined to make perfect contact between the bulb chamber and inside wall of socket, facilitating the instantaneous transmission of heat to the thermometer bulb.

The outer wall of the separable socket only comes in direct contact with the contents or material to be tested; therefore the wear on the thermometer proper is averted. New sockets can be supplied to replace those that are worn, as all sockets are interchangeable and will fit any bulb chamber of corresponding length.

### Directions for Inserting Separable Socket.

The socket is first screwed into the apparatus, then the thermometer inserted and coupled by the union nut. The separable socket feature permits the withdrawal of the thermometer without disturbing the pipe covering or contents of apparatus to which is attached a cap with retaining chain which is supplied for the purpose of closing the socket while the thermometer is removed so that no foreign matter can enter.

For detailed description, see page No. 53.

## STILL THERMOMETERS

### Straight Stem.

**With Separable Socket Connection for Ammonia, Coal Tar, and Crude Oil.**

**Fig. 870.**

Size of Scale Case	Length of Socket Including Bulb Chamber and Thread	Size of S. P. Thread	Temperature Range Fahrenheit	Price, Each
9"	3 <sup>3</sup> / <sub>4</sub> "	3 <sup>3</sup> / <sub>4</sub> "	40 to 240°	\$30.00
9"	3 <sup>3</sup> / <sub>4</sub> "	1"	40 to 240°	30.50
9"	5"	1"	40 to 240°	32.50
12"	3 <sup>3</sup> / <sub>4</sub> "	1"	40 to 240°	33.00
12"	5"	1"	40 to 240°	35.50
12"	8"	1"	40 to 240°	37.00
12"	12"	1 <sup>1</sup> / <sub>4</sub> "	100 to 750°	40.00
12"	18"	1 <sup>1</sup> / <sub>4</sub> "	100 to 750°	45.00
12"	24"	1 <sup>1</sup> / <sub>4</sub> "	100 to 750°	50.00

For greater length of stem, each additional six inches or fraction, add to list ..... \$3.75

For illustration see page No. 47.

For separable sockets see page No. 52.

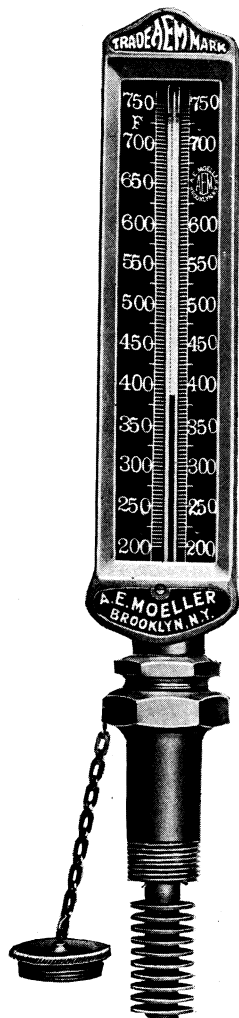
## A. E. M. MECHANICAL THERMOMETERS

### Straight Extension Stem

With Separable Socket Connection for High Pressure Superheated Steam and Oil Stills and Other Purposes.

1" S. P. Thread; approximate range of scale 200 to 750° F.

Fig. 890.



**Fig. 880**  
Multiple Disk Feature

Size of Scale Case	Length of Socket Including Bulb Chamber and Thread	Price, Each
9"	3¾"	\$32.50
9"	5"	34.50
12"	3¾"	35.00
12"	5"	37.50
12"	8"	40.00

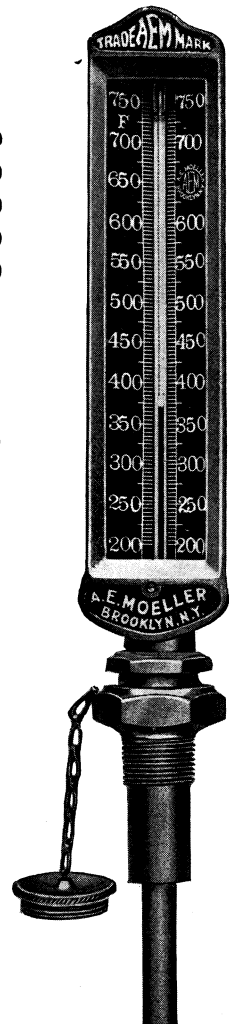
Thermometers with longer stems, each additional six inches or fraction, add to list ..... \$3.75

For detailed description see page No. 47.

For detailed description of sockets, see pages No. 52 and 53.

**Fig. 880** The multiple disk feature increases the surface of the thermometer, stem, thus securing a better contact of superheated steam. For multiple disk feature on any stem, add to the above list..... 3.50

Angle thermometers, see page No. 60.



**Fig. 890**  
Extension Stem

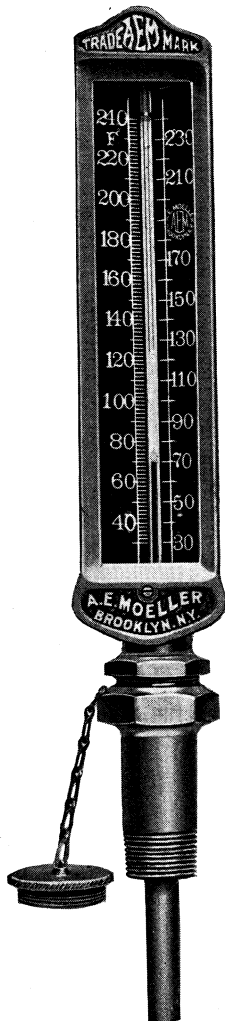


## A. E. M. MECHANICAL THERMOMETERS

### Straight Stem

With Separable Socket Connection for Feed Water Lines, Economizers, Condensers, Steam Heaters, Kettles, and other Apparatus.

Range of Scale to suit purpose.



**Fig. 900**  
Extension Neck

**Fig. 910**

Size of Scale Case	Length of Bulb Chamber Including Socket	Size of Thread	Price, Each
7"	2 $\frac{3}{4}$ "	$\frac{1}{2}$ "	\$26.00
7"	3 $\frac{3}{4}$ "	$\frac{3}{4}$ "	28.00
7"	5"	$\frac{3}{4}$ "	30.00
7"	3 $\frac{3}{4}$ "	1"	28.00
7"	5"	1"	30.00
9"	3 $\frac{3}{4}$ "	$\frac{3}{4}$ "	30.00
9"	3 $\frac{3}{4}$ "	1"	32.00
9"	5"	1"	34.00

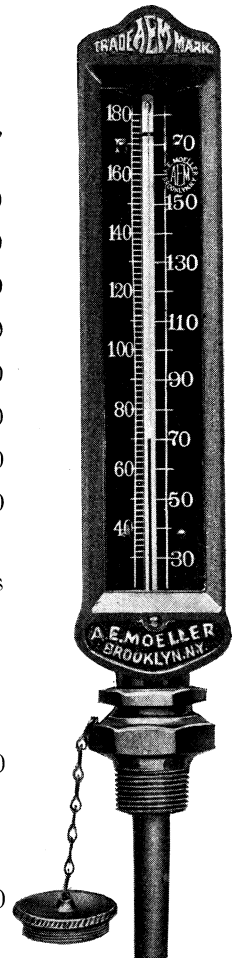
For detailed description see pages No. 50 and 51.

Range temperature above 500,  
add to list..... \$2.00

Range temperature above 750,  
add to list..... 4.00

Fig. 900, same price as Fig. 890.

(See page No. 50.)

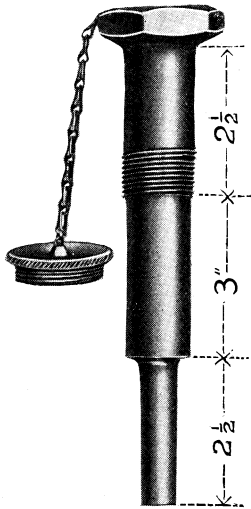


**Fig. 910**  
Straight Stem

## TERMS AND MEASUREMENTS

OF

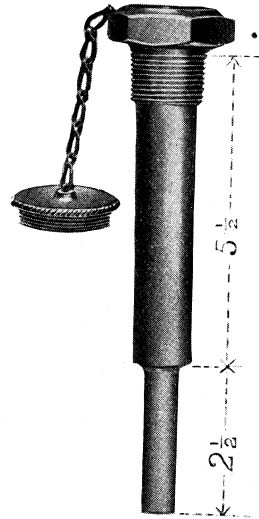
Separable Sockets, Standard Type with 1-Inch Pipe Thread



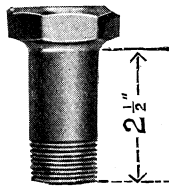
**Combination Stem Socket**



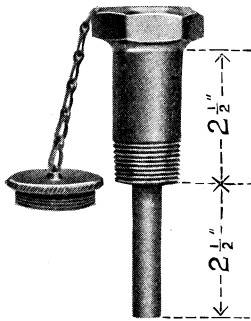
**Standard Union Bushing**



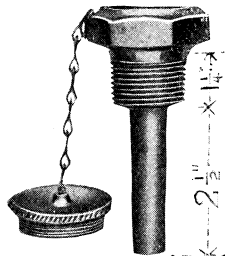
**Long Stem Socket**



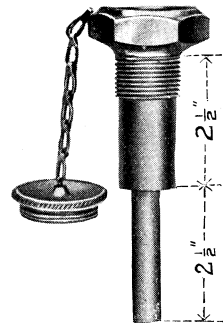
**Extension Neck Union Bushing**



**Extension Neck Socket**



**Standard Socket**



**Extension Stem Socket**

Length of socket including thread.....	3 3/4"	5"	8"	12"
Price, each .....	\$9.00	12.00	13.50	15.00
Each additional six inches, add to list.....				\$3.75

## MECHANICAL THERMOMETERS

### For Industrial Purposes

**The Scale Cases** of all mechanical thermometers are V shaped, cast of high grade bronze ground and polished, with a heavy glass front protection.

**The Scales** are brass, black oxidized.

**Numbers and Graduations** are cut in the scale and filled with a permanent white pigment.

**Intermediate Sections** between the bulb and scale case are made of steel accurately turned and threaded to standard dimensions so that all are interchangeable.

**The Bulb Chamber** of thermometers for separable sockets are machined of solid steel ground and fitted in limit gauges to insure perfect contact.

**Sockets** are bored and reamed to absolutely accurate dimensions so as to fit correspondingly tapering surfaces of bulb chambers, insuring universal interchangeability.

**Steel Parts** are heavily copper plated to prevent corrosion.

**Tubes are Magnifying** made with sensitive cylindrical bulbs of a glass best suited for the highest range of temperature.

**Safety Chambers** are blown in all the tubes to protect the thermometers from breaking when overheated.

**Tubes are Nitrogen Filled Under Pressure** in space above mercury to prevent scattering mercury in tubes.

**Quick Registration** is assured by mercury conducting bath for thermometer ranging below 500° F.; when above 500° F. metallic powder is used.

**Guards** are accurately machined of bronze or aluminum castings.

**Asbestos Insulation** between the outer casting and the thermometer tube prevents errors in indication, irrespective of the immersion of the stem.

No instrument leaves our factory until we are satisfied beyond doubt that it is accurate and reliable in every respect.

**Clamp Flanges or Hooks** are constructed to slide over the stem of the thermometer and can be tightened by thumb screws so that the instrument can be immersed to any depth.

**Scale Cases** most generally used are 9", but for higher ranges of temperature, the 12" case is more desirable as it permits more open scale graduations and larger figures, consequently easier reading of thermometer.

The following thermometers are all of the same standard quality and differ only in size, character, and the connection or fittings.

When measuring the thermometer stem, always measure from the end of the scale case.

If the mercury column in the thermometer should happen to break in transit, it can be reunited by following carefully the instructions below.

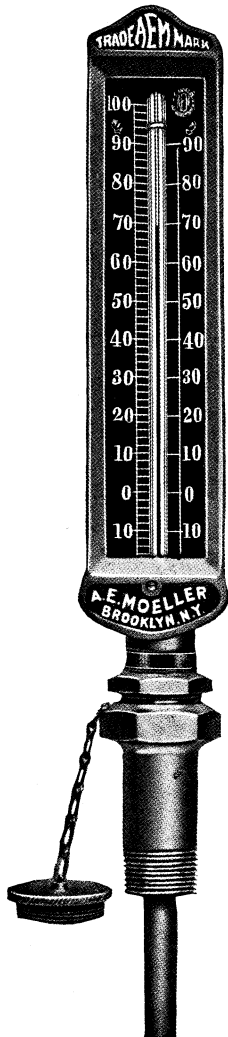
Heat the thermometer until the mercury nearly fills the reservoir (or safety chamber). Care must be taken not to overheat the instrument. (If you do, it will break). Allow same to cool. If not united, repeat until it does unite.

## INSULATED MECHANICAL THERMOMETERS

Straight Stem With Separable Socket Connection for Pipes and Pumps  
of Brine, Ammonia, Compressed Air and Other Systems.

Approximate scale range, minus 20 to 100° F.

Fig. 920



**Fig. 920**  
Insulated

Size of Scale Case	Length of Socket Including Bulb Chamber	Size of Thread	Price, Each
7"	3 <sup>3</sup> / <sub>4</sub> "	3/4"	\$31.00
7"	3 <sup>3</sup> / <sub>4</sub> "	1"	32.00
7"	5"	1"	35.00
9"	3 <sup>3</sup> / <sub>4</sub> "	1"	35.00
9"	5"	1"	38.00
12"	3 <sup>3</sup> / <sub>4</sub> "	1"	38.00
12"	5"	1"	41.00

When ordering, state whether for Brine or Ammonia.  
When for ammonia, add to list..... \$3.00

### Insulating Feature

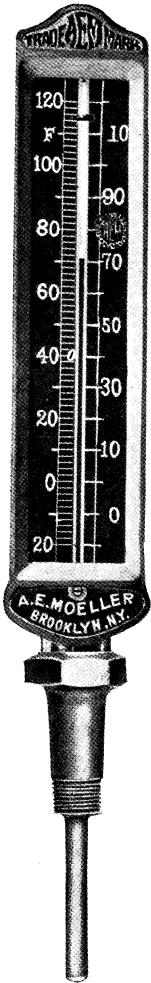
Thermometers which are constantly used in apparatus where the temperature is below 32° F. are liable to frost up, causing corrosion and obscuring the mercury column, and requiring frequent removal of frost deposits.

These difficulties are entirely overcome by the A. E. M. insulating feature, which prevents the frost from rising above the insulation of non-heat conducting material, thereby preventing frost deposits. It further serves to increase the accuracy and efficiency of the instrument by preventing the transmission of heat from the thermometer case to the bulb chamber.

## A. E. M. MECHANICAL THERMOMETERS

Straight Stem, Fixed Thread for All Requirements,  
Range of Scale to Suit Purpose.

The Extension Neck Socket is made for the purpose of bringing the thermometer case and wrench-head above the pipe covering or insulation, and also to clear other obstructions which would make it difficult to reach the wrench-head while connecting or disconnecting the thermometer.



**Fig. 930**

### Thermometers, Fixed Thread Connection With Extension Neck Socket.

Size of Scale Case	Size of Thread	Price, Each
7"	1/2"	\$22.00
7"	3/4"	22.50
9"	3/4"	23.50
9"	1"	24.00
12"	3/4"	25.00
12"	1"	25.50

### Thermometers with Fixed Thread Connection

Size of Scale Case	Size of Thread	Price, Each
7"	1/2"	\$20.00
9"	3/4"	22.00
9"	1"	22.50
12"	3/4"	23.00
12"	1"	23.50

Scale cases most generally used are the 9" size but for high ranges of temperature the 12" cases are more desirable as they permit a more open scale graduation and larger figures, consequently an easier reading of the thermometer.



**Fig. 940**

The above thermometers can be furnished with 1", 2", 2 1/2" and 3" bulb chambers.

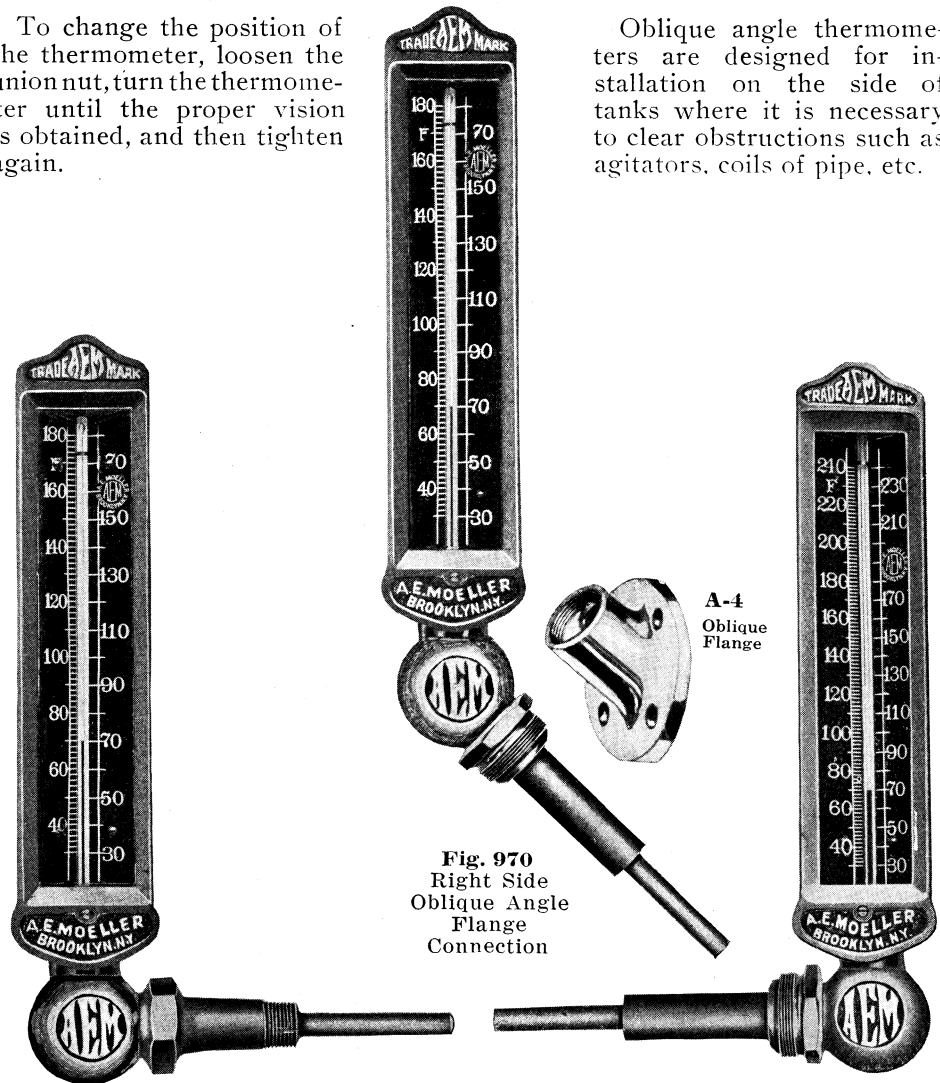
## A. E. M. MECHANICAL THERMOMETERS

**Oblique and Side Angle, Graduated to Suit Purpose.**

Side angle thermometers are made with stems extending on the right or left side, and may be inserted at any height on the side of the apparatus. If higher than the observer's eye, incline, so that the case of thermometer faces downward. If, however, the thermometer is lower, recline until the observer can plainly observe the instrument.

To change the position of the thermometer, loosen the union nut, turn the thermometer until the proper vision is obtained, and then tighten again.

Oblique angle thermometers are designed for installation on the side of tanks where it is necessary to clear obstructions such as agitators, coils of pipe, etc.



**Fig. 950**  
RIGHT SIDE ANGLE  
Extension Neck Fixed Thread Connection

**Fig. 970**  
Right Side  
Oblique Angle  
Flange  
Connection

**Fig. 960**  
LEFT SIDE ANGLE  
Union or Separable Socket Connection

When ordering, specify whether left or right side angle is required.

## A. E. M. MECHANICAL THERMOMETERS

Oblique and Side Angle  
For Temperature Range Minus 60° F. to 500° F., Graduated to Suit Purpose.

### Extension Neck Fixed Thread Connection

Size of Scale Case	Length of Socket Including Bulb Chamber	Size of Thread	Price, Each
7"	3 1/4"	1/2"	\$26.00
9"	3 3/4"	3/4"	27.50
12"	3 3/4"	1"	29.50

### Separable Socket Extension Neck

7"	3 1/4"	1/2"	\$32.00
9"	3 3/4"	3/4"	36.00
12"	3 3/4"	1"	40.00
12"	5"	1"	44.00
12"	8"	1"	47.00

### Separable Socket, Standard

7"	3 1/4"	1/2"	\$30.00
9"	3 3/4"	3/4"	34.00
9"	3 3/4"	1"	34.50
9"	5"	1"	36.50
9"	8"	1"	38.50
12"	3 3/4"	1"	36.50
12"	5"	1"	38.50
12"	8"	1"	40.50

### Long Stem Separable Socket Connection

12"	12"	1 1/4"	\$44.00
12"	18"	1 1/4"	49.00
12"	24"	1 1/4"	54.00
12"	36"	1 1/4"	60.50

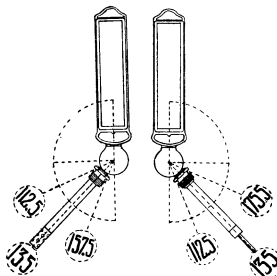
### Standard Union Bushing

Size of Case	Length of Stem	Price, Each
9"	6"	\$26.00
9"	12"	28.00
9"	18"	30.00
12"	6"	29.00
12"	12"	31.00
12"	24"	35.00

### Flange Connection, 5" Diameter

Size of Case	Length of Stem	Price, Each
9"	6"	\$29.50
9"	12"	31.50
9"	18"	33.50
12"	6"	32.50
12"	12"	34.50
12"	24"	38.50

For Longer stems, each additional 6", add to list .....	Price, each	\$3.75
Thermometers with scale range above 500°, add to list .....		2.00
Thermometers with scale range above 750°, add to list .....		2.00
Thermometers with scale range 20° below zero, add to list .....		2.00



**Fig. 971**

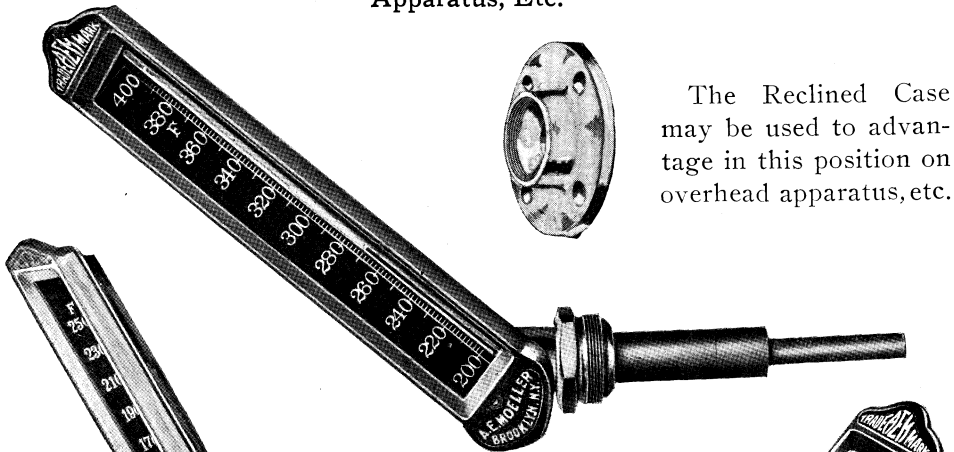
When ordering oblique angle thermometers specify degree of angle required, otherwise thermometers will be furnished with stem at an angle of 135 degrees. See Figure 971.

For longer stems, see page No. 47.

**A-4 Flange for oblique stem thermometers \$4.00**

A. E. M. MECHANICAL THERMOMETERS

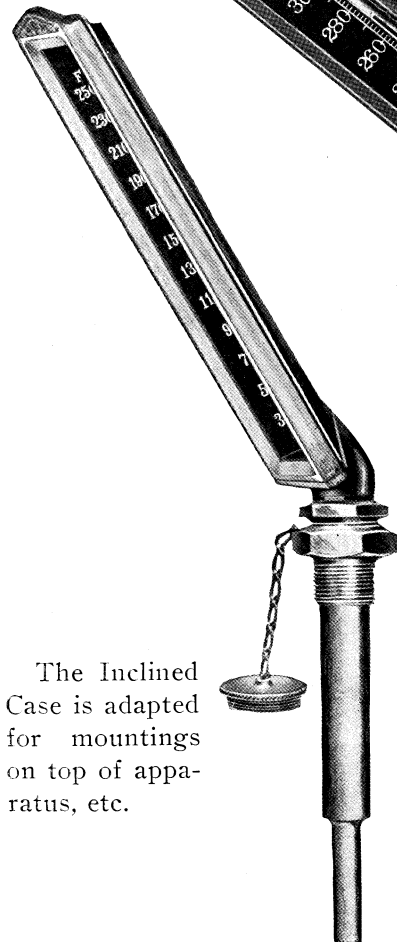
Obtuse Angle Inclined or Reclining Cases for Overhead or Low Mounted Apparatus, Etc.



The Reclined Case may be used to advantage in this position on overhead apparatus, etc.

**Fig. 1000**

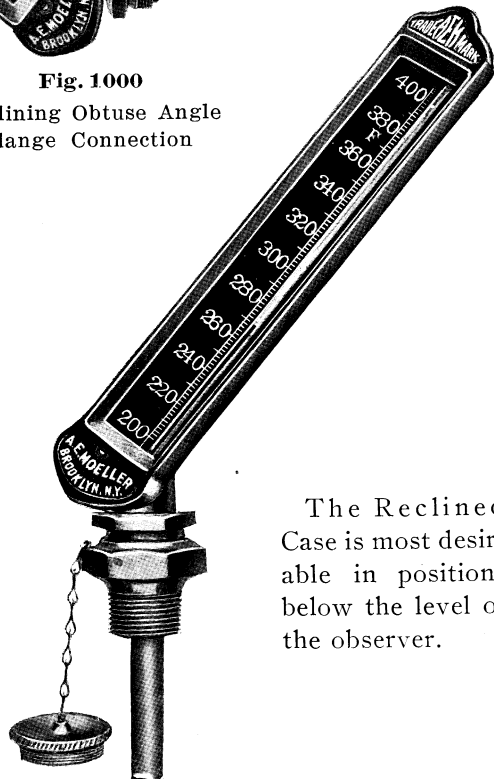
Reclining Obtuse Angle  
Flange Connection



The Inclined Case is adapted for mountings on top of apparatus, etc.

**Fig. 980**

Inclining Obtuse Angle  
Long Stem Separable Socket  
Connection



The Reclined Case is most desirable in positions below the level of the observer.

**Fig. 990**

Reclining Obtuse Angle  
Separable Socket Connection

For prices, see page No. 59.



## A. E. M. MECHANICAL THERMOMETERS

Obtuse Angles, Inclined or Reclined Cases, Brass.

### Extension Neck Fixed Thread Connection

Size of Scale Case	Length of Socket Including Bulb Chamber	Size of S. P. Thread	Price, Each
7"	2 <sup>3</sup> / <sub>4</sub> "	1/2"	\$24.00
9"	3 <sup>3</sup> / <sub>4</sub> "	3/4"	25.50
12"	3 <sup>3</sup> / <sub>4</sub> "	1"	27.00

### Separable Socket Extension Neck

7"	3 <sup>1</sup> / <sub>4</sub> "	1/2"	\$30.00
9"	3 <sup>3</sup> / <sub>4</sub> "	3/4"	34.00
12"	3 <sup>3</sup> / <sub>4</sub> "	1"	38.00
12"	5"	1"	42.00
12"	8"	1"	45.00

### Separable Socket, Standard

7"	3 <sup>1</sup> / <sub>4</sub> "	1/2"	\$28.00
9"	3 <sup>3</sup> / <sub>4</sub> "	3/4"	32.00
9"	3 <sup>3</sup> / <sub>4</sub> "	1"	32.50
9"	5"	1"	34.50
9"	8"	1"	36.50
12"	3 <sup>3</sup> / <sub>4</sub> "	1"	34.50
12"	5"	1"	36.50
12"	8"	1"	38.50

### Fig. 980. Long Stem, Separable Socket Connection

12"	12"	1 <sup>1</sup> / <sub>4</sub> "	\$42.00
12"	18"	1 <sup>1</sup> / <sub>4</sub> "	47.00
12"	24"	1 <sup>1</sup> / <sub>4</sub> "	52.00
12"	36"	1 <sup>1</sup> / <sub>4</sub> "	58.50

### Standard Union Bushing

Size of Case	Length of Stem	Price, Each
9"	6"	\$24.00
9"	12"	26.00
9"	18"	30.00
12"	6"	27.00
12"	12"	29.00
12"	24"	33.00

### Fig. 1000 Flange Connection, 5" Diameter

Size of Case	Length of Stem	Price, Each
9"	6"	\$27.50
9"	12"	29.50
9"	18"	31.50
12"	6"	29.50
12"	12"	32.50
12"	24"	36.50

With longer stem, for each additional six inches, add to list..... Price, each \$3.75

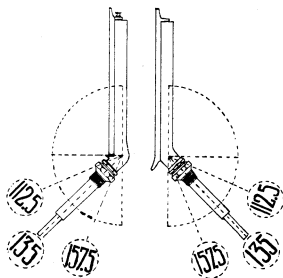


Fig. 1001

Thermometers with scale range above 500°, add to list..... 2.00  
 Thermometers with scale range above 750°, add to list..... 4.00  
 Thermometers with scale range 20° below zero, add to list..... 2.00

When ordering, specify degree of angle required, otherwise thermometers will be furnished with stem at an angle of 135 degrees.

For longer stems, see page No. 47.

## A. E. M. MECHANICAL THERMOMETERS

Angle Stem, Separable Socket Connection, Graduated to Suit Purpose.

Fig. 1010

Size of Scale Case	Length of Socket Including Bulb Chamber & Thread	Size of S. P. Thread	Price, Each
7"	2 $\frac{3}{4}$ "	$\frac{1}{2}$ "	\$24.00
7"	3 $\frac{3}{4}$ "	$\frac{3}{4}$ "	26.00
9"	3 $\frac{3}{4}$ "	1"	30.00
9"	5"	1"	32.00
9"	8"	1"	34.00
12"	3 $\frac{3}{4}$ "	1"	32.00
12"	5"	1"	34.00
12"	8"	1"	36.00
12"	12"	1 $\frac{1}{4}$ "	40.00

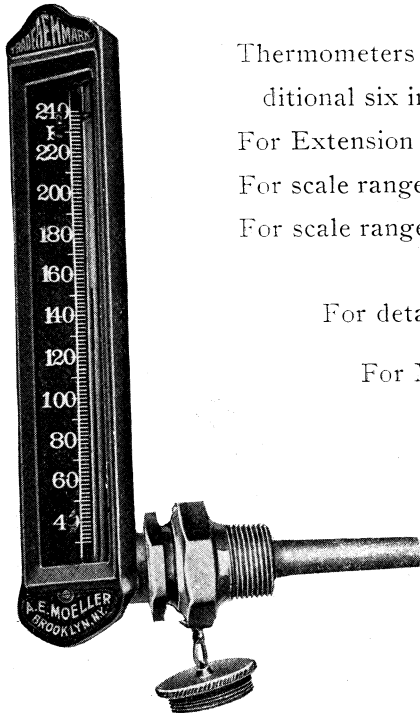


Fig. 1010

	Price, each
Thermometers with longer stem for each additional six inches or fraction, add to list . . . . .	\$3.75
For Extension Neck Socket, add to list . . . . .	2.00
For scale range above 500°, add to list . . . . .	2.00
For scale range above 750°, add to list . . . . .	4.00

For detailed description see pages 50 to 53.

For Multiple disk feature, see page 50.

## A. E. M. MECHANICAL THERMOMETERS

### Angle Stem Fixed Thread

The Angle Thermometer is designed for application where the straight stem thermometer is not adaptable, such as the side of apparatus, vertical pipes, and tanks, or can be placed anywhere on the level of the observer's eye.

Fig. 1020

#### Fixed Thread

Size of Scale Case	Length of Socket and Union	Size of Thread	Price, Each
7"	2"	1/2"	\$22.00
7"	2"	3/4"	23.00
9"	2 1/2"	1/2"	23.00
9"	2 1/2"	3/4"	24.00
12"	3"	3/4"	24.50
12"	3"	1"	25.50

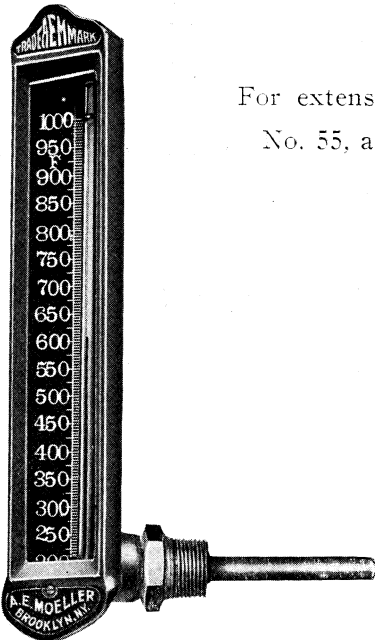


Fig. 1020

Price, each

For extension neck socket, illustrated on page  
 No. 55, add to list..... \$2.00

## A. E. M. MECHANICAL THERMOMETERS

**High Temperature, Angle Stem, Flange Connection for Bake Ovens,  
Japanning and Enameling Ovens, Dry Kilns, Etc.**

The Bake Oven Thermometer is designed to enable the user to carry on the baking with the positive knowledge of the actual heat in the oven so that he can regulate the temperature to obtain the best results. The thermometer is provided with flange connection and guard.

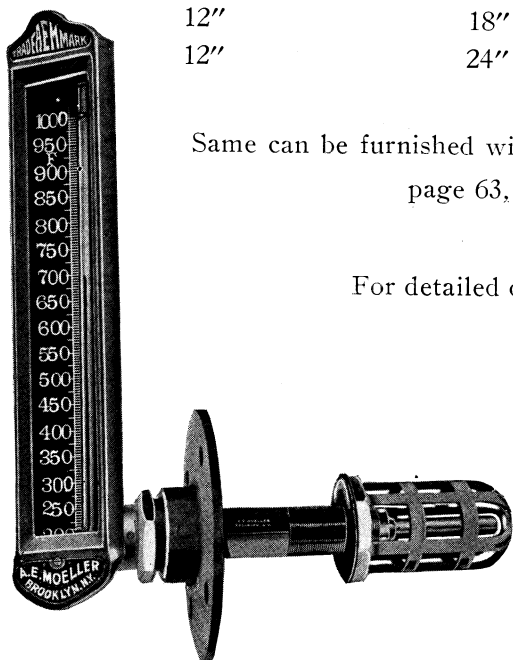
**Fig. 1030.**

### With Flange Connection

Size of Scale Case	Length of Stem Including Union Nut and Guard	Price, Each
9"	6"	\$30.00
9"	12"	32.00
9"	18"	34.00
12"	6"	32.00
12"	12"	34.00
12"	18"	36.00
12"	24"	38.00

Same can be furnished with Union Bushing, as illustrated on page 63, at the same price.

For detailed description see page 53.



**Fig. 1030**

## A. E. M. MECHANICAL THERMOMETERS

**Angle Stem, Union Bushing Connection for Refrigeration, Cold Storage,  
and Freezing Rooms.**

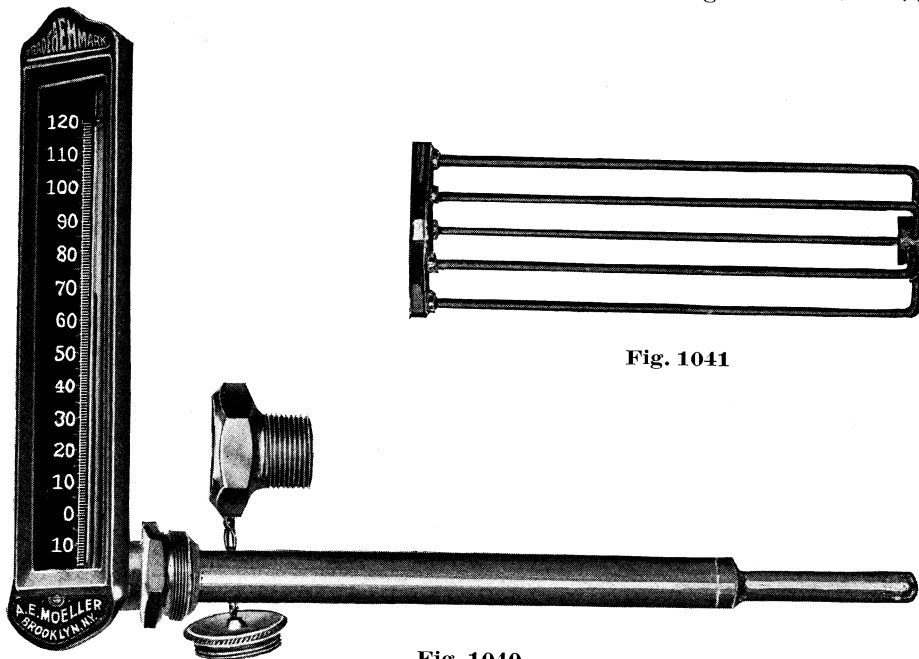
**Fig. 1040** Freezing room thermometer, designed for the purpose of taking the temperature of the freezing room without opening the door or entering the same. The thermometer case is fastened by means of a flange or union bushing at a place of convenience from where the thermometer can be observed and the stem or the bulb chamber inserted through the wall into the space of which the temperature is to be taken. Approximate scale range, minus 20 to 110° F.; 1" Union Bushing connection, 12" scale case.

Length of stem including Bulb Chamber:

Inches .....	12	18	24	36	42	48	54
Price, each.....	\$25.00	28.00	31.00	34.00	36.00	38.00	40.00
Union Flange Connection, add to list.....							\$4.00

For detailed description, see page No. 53.

**Fig. 1041** Guard to protect stem of thermometer from being damaged, made of 3/8" steel rod; diameter of guard 5"; length 15".... 7.50



**Fig. 1040**

**Fig. 1041**

## INDUSTRIAL THERMOMETERS

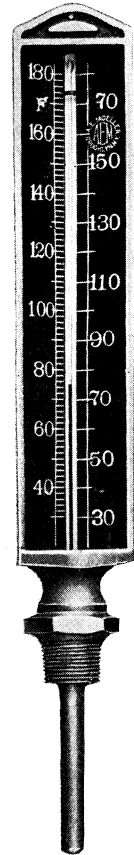
For All Purposes.

“V” Shaped Iron Case, nickel plated, without glass front, furnished in 7” and 9” cases. Scales brass, black oxidized, white figures, with fixed thread or long stem.

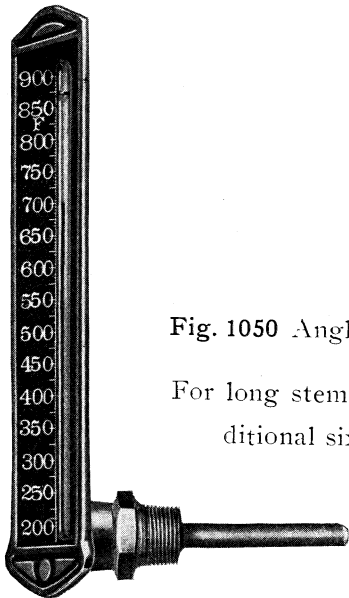
Fig. 1060 Straight Stem.

Size of Scale Case	Size of S. P. Thread	Price, Each
7”	1/2”	\$10.00
7”	3/4”	11.00
9”	1/2”	12.00
9”	3/4”	13.00

The above thermometers can be furnished with 1”, 2”, 2 1/2”, and 3” bulb chamber.



No. 1060



No. 1050

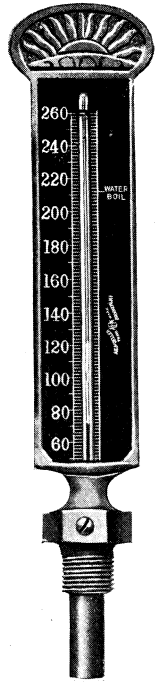
Price, each

Fig. 1050 Angle thermometer, add to list..... \$2.00

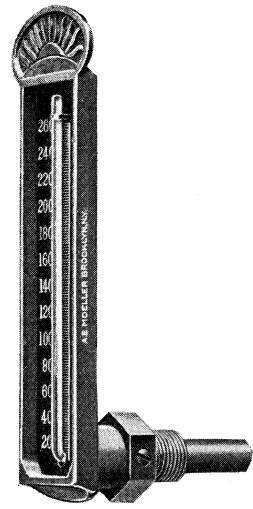
For long stem thermometers, add to list for each additional six inches or fraction..... 3.00

## HOUSE HEATER THERMOMETERS

For Steam and Hot Water.



No. 1070



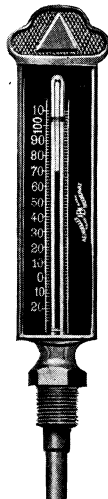
No. 1080

Nickel plated iron scale case. Scale brass oxidized, with white filled figures. 2" stem with 1/2" S. P. thread. Approximate range of scale 60 to 260° F. Mercolor tubes. Adapted mainly for hot water heating.

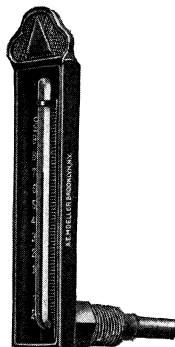
	Price, per doz.
No. 1070 Iron case, straight stem.....	\$36.00
No. 1080 Iron case, angle stem.....	42.00

## MIDGET THERMOMETERS

For Small Apparatus.



No. 1090



No. 1100



Midget Long  
Stem  
Thermometer

The cases are of cast bronze highly polished or nickel plated  $\frac{1}{4}$ " or  $\frac{3}{8}$ " S. P. thread; black oxidized brass scale, with white filled figures graduated to suit purpose.

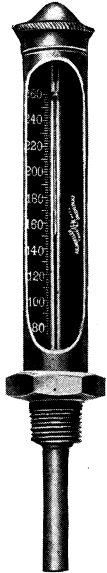
<b>No. 1090</b>	4 $\frac{1}{4}$ " Scale case nickel plated,	<b>Price, each</b>
	Straight Stem, $\frac{3}{8}$ " diameter, 11 $\frac{1}{2}$ " long including thread	\$8.00
	Straight Stem, $\frac{3}{8}$ " diameter, 6" long including thread	10.50
	Straight Stem, $\frac{3}{8}$ " diameter, 12" long including thread	13.00
	Straight Stem, $\frac{3}{8}$ " diameter, 18" long including thread	15.50
	Straight Stem, $\frac{3}{8}$ " diameter, 24" long including thread	18.00

<b>No. 1100</b>	4 $\frac{1}{4}$ " Scale case nickel plated,	<b>Price, each</b>
	Angle Stem, $\frac{3}{8}$ " diameter, 11 $\frac{1}{2}$ " long including thread	\$9.50
	Angle Stem, $\frac{3}{8}$ " diameter, 6" long including thread	12.00
	Angle Stem, $\frac{3}{8}$ " diameter, 12" long including thread	14.50
	Angle Stem, $\frac{3}{8}$ " diameter, 18" long including thread	17.00
	Angle Stem, $\frac{3}{8}$ " diameter, 24" long including thread	19.50

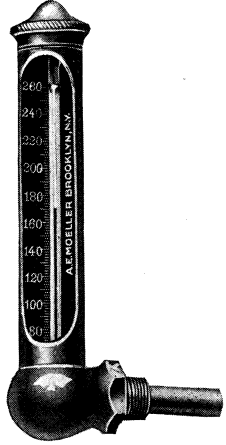


## A. E. M. CYLINDRICAL CASE THERMOMETERS

For Shower Bath, Sterilizing Apparatus and Marine Use.



No. 1120

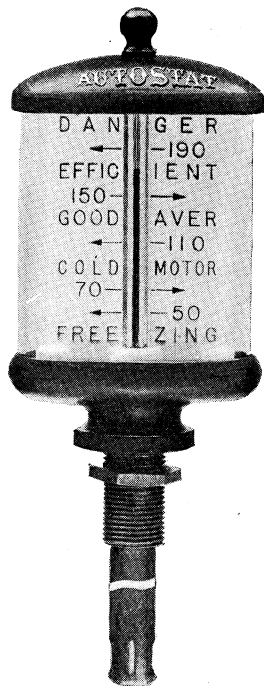


No. 1130

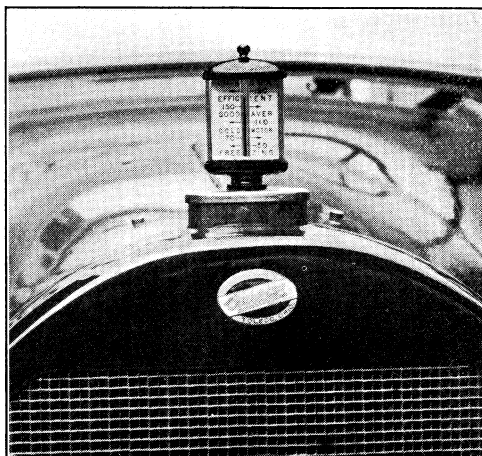
Cases highly nickel plated, 1" diameter, 3/8" S. P. thread, stem 1 1/2" including thread; oxidized brass scale, white filled figures, mercury or mercolor tubes. Approximate scale range 40 to 260° F.

		Price, each
No. 1120	5" Cylindrical nickel plated brass case, straight stem.....	\$10.00
No. 1130	5" Cylindrical nickel plated brass case, angle stem.....	12.00
No. 1121	10" Cylindrical nickel plated brass case straight stem, approximate scale range 0 to 240° F. ....	15.00
No. 1131	10" Cylindrical nickel plated brass case, angle stem, approximate scale range 0 to 240° F. ....	18.00
	With pressure scale, add to list.....	.25

## AUTOSTAT OR AUTOMOBILE THERMOMETERS



**No. 1140**



The A. E. M. Autostat is a scientifically constructed thermometrical instrument for ascertaining the temperature of the motor.

Its construction is such that the bulb of the instrument comes in direct contact with the water in the radiator which circulates between the walls of the motor thereby giving an accurate reading of the existing temperature of the motor.

With the A. E. M. Autostat you do not have to rely on air space or steam for readings as with other instruments for similar purposes. Steam is created by water boiling at 212° Fahrenheit, a temperature where in many cases it is too late to remedy the trouble. You should be warned of approaching danger before the water boils or steams.

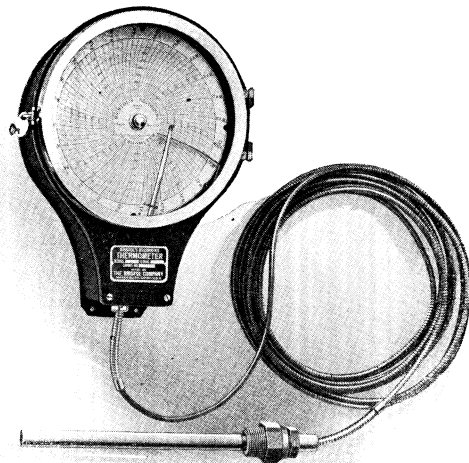
In order that the A. E. M. Autostat shall come in actual contact with the body of the water at or below the outlet pipe in the radiator, it is furnished in three different sizes, 2½", 3½", and 4½" shanks.

The A. E. M. Autostat can be easily attached to any car by drilling an ¼ inch hole in the centre of the radiator cap—insert AUTOSTAT and tighten with nut furnished for same.

<b>No. 1140</b>	Autostat, metal nickel plated, white enamel dial with raised red figures and remarks. Mercolor tube with split washer and nuts to fasten to cap of automobile radiator.....	<b>Price, each</b> <b>\$7.50</b>
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## RECORDING THERMOMETERS

For Recording the Temperature for Any Desired Process.



No. 1150

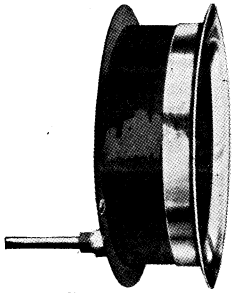
Can be used to record temperatures from 60° F. below zero to 800° F. The chart indications are uniform and give a clear open record over the entire range and permits of their being averaged. These gas-filled thermometers are equipped with a patented compensator for scale under 400° F., so that they operate just as accurately in the lower ranges as in the higher, and are made in a variety of chart ranges to best suit conditions.

When ordering, state for what purpose the instrument is to be used, so we can select the proper chart and bulb.

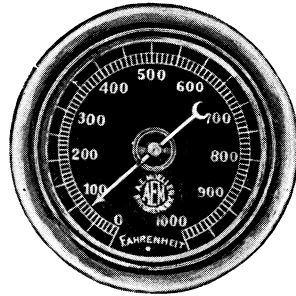
	Price, each
<p><b>No. 1150</b> Round dial recording thermometer, with 25 feet of capillary connecting tube and bulb, with union bushing.....</p>	<p>\$180.00</p>

## A. E. M. PYROMETERS

For High Temperatures.



Side View.

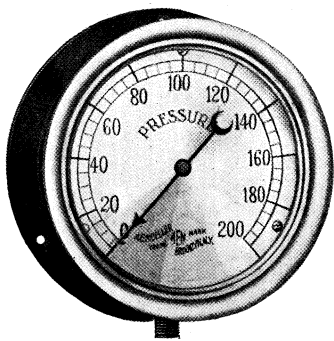


Front View

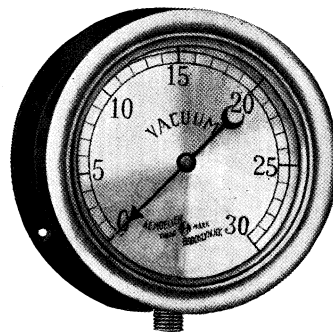
No. 1170

For those that desire a round dial instrument for its greater reading facilities, we offer the above pyrometer as a reliable and trust-worthy instrument that needs practically no resetting. To obtain correct readings the stem must be exposed to the temperature at least 15 inches.

	Price, each
No. 1160 6" Dial Pyrometer, stem 36" .....	\$35.00
No. 1161 10" Dial Pyrometer, stem 36" .....	42.00
No. 1170 Short stem Pyrometer, 1" S. P. thread .....	36.00



Pressure Gauge



Vacuum Gauge

## PRESSURE AND VACUUM GAUGES

For indicating pressure or vacuum of water, steam, gas, air or any other medium which has no deteriorating effect upon brass.

The interior mechanism consists of independent non-corrosive movement mounted directly to the gauge socket to insure stability. The Bourdon expansion spring is made of seamless drawn tubing and guaranteed not to set while in or out of service.

The dial is graduated and numbered in accordance with the movement; with silvered face and black numbers.

When ordering always state size of dial wanted, whether brass or iron case and maximum pressure.

### PRICES OF PRESSURE OR VACUUM GAUGES

#### PRICES—EACH

Including cock with each gauge, 3-inch dial and larger.

Size	Iron Case, Brass Ring	Iron Case, N. P. Ring	Finished Brass Case	N. P. Case	Finished Brass Deep Case	N. P. Deep Case	Pipe Connection
12 inch Dial	\$50.00	\$51.50	\$75.00	\$79.00	\$80.00	\$84.00	1/4 in. Female
10 " "	32.00	33.00	40.00	43.00	44.00	47.00	1/4 " "
8 1/2 " "	22.00	22.75	30.00	32.50	33.50	36.00	1/4 " "
6 3/4 " "	16.00	16.60	20.00	22.00	23.00	25.00	1/4 " "
6 " "	13.00	13.50	16.00	17.50	....	....	1/4 " Male
5 1/2 " "	10.00	10.25	12.00	13.25	....	....	1/4 " "
5 " "	8.00	8.20	11.00	12.00	....	....	1/4 " "
4 1/2 " "	8.00	8.20	10.00	11.00	....	....	1/4 " "
3 1/2 " "	7.00	7.18	9.00	9.75	....	....	1/4 " "
3 " "	6.00	6.15	8.00	8.60	....	....	1/4 " "
2 1/2 " "	6.00	6.15	8.00	8.60	....	....	1/8 " "

### PRICE OF COMPOUND PRESSURE AND VACUUM GAUGES

12 inch Dial	\$60.00	\$61.50	\$80.00	\$84.00	\$85.00	\$89.00	1/4 in. Female
10 " "	40.00	41.00	50.00	53.00	54.00	57.00	1/4 " "
8 1/2 " "	30.00	30.75	40.00	42.50	43.50	46.00	1/4 " "
6 3/4 " "	20.00	20.60	25.00	27.00	28.00	30.00	1/4 " "
6 " "	16.00	16.50	20.00	21.50	....	....	1/4 " Male
5 1/2 " "	14.00	14.25	16.00	17.25	....	....	1/4 " "
5 " "	14.00	14.25	16.00	17.25	....	....	1/4 " "
4 1/2 " "	12.00	12.20	14.00	15.00	....	....	1/4 " "
3 1/2 " "	10.00	10.18	12.00	12.75	....	....	1/4 " "
3 " "	9.00	9.15	11.00	11.60	....	....	1/4 " "
2 1/2 " "	9.00	9.15	11.00	11.60	....	....	1/8 " "
2 " "	9.00	9.15	11.00	11.60	....	....	1/8 " "

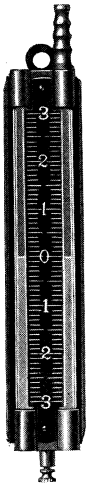
### PRICE FOR AMMONIA GAUGES

Size	Iron Case, N. P. Ring	Pipe Connection
8 1/2 inch Dial	\$45.75	1/4 inch Male
8 " "	45.75	1/4 " "
6 3/4 " "	40.60	1/4 " "
6 " "	35.50	1/4 " "
5 1/2 " "	30.50	1/4 " "
5 " "	30.50	1/4 " "
4 1/2 " "	25.50	1/4 " "
3 1/2 " "	25.50	1/4 " "

## LOW PRESSURE DRAFT GAUGE

Ruby Back for Measuring Draft and Low Pressures.

**No. 1210** Portable guarded draft gauge with hanger and hose connection, nickel plated, with zero adjuster, Ruby back gauge glass, black oxidized scales with white figures.



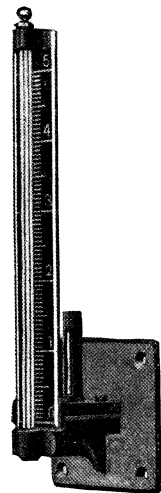
**No. 1210**

**No. 1211** Stationary draft gauge mounted on wall base with hose or three way cock connection.

Size of Scale	No. 1210 Portable	Price, Each	No. 1211 Wall Type
4"	\$9.00		\$10.50
6"	10.00		11.50
8"	11.00		12.50
10"	12.00		13.50

**No. 1200** A. E. M. Mercury Column Pressure Gauge for indicating low pressure such as Natural and Artificial gas service, blast furnaces, etc. This gauge indicates pressure by mercury column, and is very sensitive and accurate.

	Price, each
5 lbs. Pressure.....	\$11.00
10 lbs. Pressure.....	18.00
20 lbs. Pressure.....	28.00

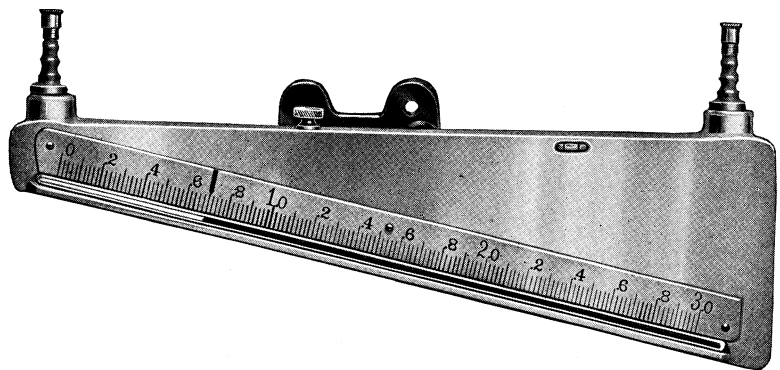


**No. 1200**

The above prices do not include mercury.  
Mercury, per lb., . . . . Price upon request.

## A. E. M. DIFFERENTIAL DRAFT GAUGE

For Measuring Draft and Extreme Low Pressure



**No. 1220**

In all steam plants a check on the consumption of fuel is of the utmost importance, and therefore the draft of the waste gases escaping from the stock should be carefully noted.

For this purpose, however, a permanently accurate, easy reading and substantial draft gauge should be used. The A. E. M. Differential Draft Gauge will fill the requirements to perfection.

The instrument is made of cast aluminum highly polished, provided with a sensitive level, and so designed that all glass parts are protected against breakage and dust.

The glass tubes are selected for uniformity in bore and then well seasoned. The diameter of the reservoir and indicating tube, together with the incline of the latter, is so proportioned and arranged that the reading represents distilled water in inches.

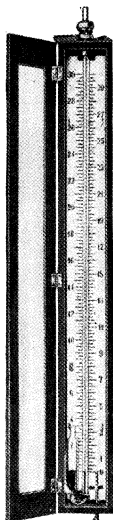
The liquid used is Red Colored Mineral Oil and owing to its uniformity in capillary attraction and minimum evaporation is far superior to water.

The instrument is provided with bracket and micrometer leveling attachments for convenience in adjusting the same. By turning the knurled screw at the top of the case, it can be accurately leveled.

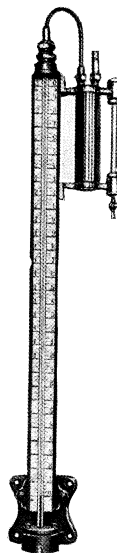
<b>No. 1220</b>	3" Aluminum Differential Draft Gauge with bracket and micrometer leveling attachment.....	Price, each \$25.00
<b>No. 1225</b>	1" Aluminum Differential Draft Gauge with slotted lugs for mounting.....	15.00

## A. E. M. MERCURY COLUMN VACUUM GAUGES

For Condensers, Pumps, and Vacuum Systems, etc. for Marine and Stationary  
Plants where Accuracy is of Great Importance.



No. 1230



No. 1240

		Price, each
<b>No. 1230</b>	Vacuum Gauge with zero adjuster; calibrated glass tube with mercury chamber, black oxidized brass scale, white filled figures, from 0 to 30, in highly polished wood case with glass door.....	\$40.00
<b>No. 1235</b>	Vacuum Gauge with condenser, otherwise the same as No. 1230 .....	60.00
<b>No. 1240</b>	Moisture Proof Vacuum Gauge with condenser; cast iron black enameled case, calibrated glass tube, self-adjusting mercury cistern with wall flange.....	57.00
<b>No. 1241</b>	Moisture Proof Vacuum Gauge without condenser, otherwise the same as No. 1240.....	38.00

The above prices do not include mercury.  
Mercury, per lb.,.....Price upon request.



## A. E. M. BOILER WATER TEST SET

For Analyzing Feed Water



No. 1250

There is not a single remedy or "compound" that is effective for all boiler waters. In every case the remedy must be chosen with special regard to the impurities in the particular water.

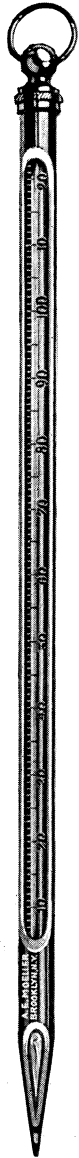
With the A. E. M. Boiler Test Set any person can analyze the water and determine whether it contains elements that cause incrustation or corrosion so that, if found necessary, a chemical treatment to precipitate or neutralize the harmful impurities can be made.

Soda Ash, used in the proper amount, is known to be the most practical and economical product for neutralizing the effect of impurities in water.

No. 1250 A. E. M. Boiler Water Test Set in mahogany case, complete Price, each \$50.00

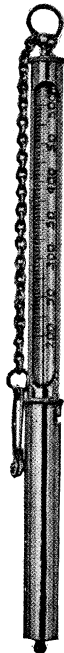
## ARMORED CHEMICAL THERMOMETERS

The armored case thermometer consists of a regular engraved stem thermometer, enclosed in a steel tube for protection, the bottom of which is perforated to allow the liquid to come directly in contact with the bulb. The front is milled out so that the mercury and figures can be plainly read. The top terminates in a ring for suspension. The thermometer proper can be easily removed for replacement.



**No. 1260**

- |          |   | Price, each |
|----------|---|-------------|
| No. 1260 | 12" Meat packers thermometer, armored case, with pointed bulb, engraved stem, mercury filled tube, approximate scale range 10 to 120° F.....                                      | \$10.00     |
| No. 1261 | 5" Meat thermometer with pointed bulb, in aluminum case with chain; mercury tube, approximate scale range 30 to 120° F. ....  | 5.00        |
| No. 1270 | 9" Asphalt or pitch thermometer, highly polished nickel plated steel case with removable bulb guard and chain; mercury tube engraved, approximate scale range 100 to 600° F. .... | 12.50       |



**No. 1270**

## ENGRAVED STEM CHEMICAL THERMOMETERS

### Ordinary Grade for General Purposes

No.	Length	Approximate Scale Range	Scale	Sub-Division	Price, Per Dozen
1300	12"	-20 to 120°	Fahrenheit	2°	\$13.00
1301	12"	-10 to 220°	"	2°	14.00
1302	12"	30 to 300°	"	2°	15.00
1303	12"	30 to 400°	"	2°	16.00
1310	14"	30 to 400°	"	2°	19.00
1311	14"	30 to 500°	"	2°	20.00
1315	16"	30 to 500°	"	2°	21.00
1316	16"	30 to 650°	"	2°	22.00
1320	12"	-10 to 110°	Centigrade	1°	14.00
1321	12"	0 to 150°	"	1°	15.00
1322	12"	0 to 200°	"	1°	17.00
1325	14"	0 to 250°	"	1°	19.00
1326	14"	0 to 300°	"	1°	20.00
1330	16"	0 to 300°	"	1°	21.00
1335	16"	0 to 350°	"	1°	22.00
1340	12"	-10 to 220°	Cent.-Fahr.	2° F. 1° C.	18.00
1341	12"	30 to 300°	"	2° F. 1° C.	19.00
1345	14"	30 to 400°	"	2° F. 1° C.	23.00
1350	16"	30 to 650°	"	2° F. 1° C.	26.00

### ARMORED CASES FOR ENGRAVED STEM THERMOMETERS

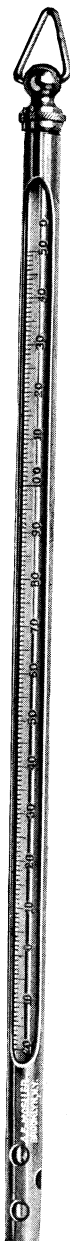
#### No. 1290. Armored Case.

Length of Thermometer...	12"	14"	16"
Price, each .....	\$2.25	2.50	2.75

### STEEL MERCURY WELLS

For Chemical Glass Thermometer with 1/2" S. P. Thread.

Length of stem below Thread	1 1/2"	2 1/2"	3 1/2"	4 1/2"
No. 1290 Price, each .....	\$3.00	4.00	5.00	6.00 No. 1322



## ENGRAVED STEM THERMOMETERS

For General Purposes

Engraved stem thermometers are made from selected thermometer tubing, thoroughly annealed to insure permanent accuracy and are scaled for total immersion, unless otherwise stated on the thermometer stem.

The following list covers thermometers, with our trade mark, carried in stock.

Thermometers of special lengths, range of scales or immersion,—prices upon application.

Packed singly in a box.



No. 1386



No. 1295

No.	Length	Approximate Scale Range	Scale	Sub-Division	Price, Each
1375	12"	-20 to 120°	Fahrenheit	1°	\$2.25
1376	12"	0 to 220°	"	2°	2.25
1377	12"	+30 to 300°	"	2°	2.25
1378	12"	+30 to 400°	"	2°	2.50
1385	14"	+30 to 400°	"	2°	3.00
1386	14"	0 to 500°	"	2°	3.50
1390	16"	+30 to 600°	"	2°	4.00
1391	16"	+30 to 750°	"	2°	5.25
1392	16"	+30 to 850°	"	5°	6.75
1393	16"	+30 to 950°	"	5°	8.25
1400	12"	0 to 100°	Centigrade	1°	2.25
1401	12"	0 to 150°	"	1°	2.25
1402	12"	0 to 300°	"	1°	3.00
1405	14"	0 to 200°	"	1°	3.25
1406	14"	0 to 300°	"	1°	3.50
1407	16"	0 to 300°	"	1°	3.75
1408	16"	0 to 400°	"	1°	6.25
1415	16"	0 to 500°	"	1°	8.00

No. 1295 Thermometers packed in a felt lined brass case.

	Price, each
For a 12" thermometer, add to list.....	\$2.25
For a 14" thermometer, add to list.....	2.50
For a 16" thermometer, add to list.....	2.75

## CHEMICAL THERMOMETERS

With Porcelain Scales. Made of Jena Normal 16 III Glass Nitrogen Filled.

12" Long with F. Scale

No.	Approximate Scale Range	Subdivision	Price, Each
1425	220°	2°	\$2.25
1426	400°	2°	2.50
1427	500°	2°	3.00
1428	600°	2°	3.50

Centrigrade

1440	100°	1/2°	\$2.25
1441	200°	1/2°	2.50
1442	300°	1°	3.00
1443	400°	1°	3.50

## NORMAL STANDARD THERMOMETER

With Porcelain Scale. In Sets of Seven Thermometers, 10" Long in Leather Case.

No. 1450.

Thermometer	Scale Range	Sub-Division	Fixed Point	Price, Each
1	-5 to 55°	1/2	100° C.	\$5.00
2	+45 to 105°	1/2	0° C.	5.00
3	+95 to 155°	1/2	0° C.	5.00
4	+145 to 205°	1/2	0° and 100° C.	5.00
5	+195 to 255°	1/2	0° and 100° C.	6.00
6	+245 to 305°	1/2	0° and 100° C.	6.00
7	+295 to 360°	1/2	0° and 100° C.	6.00

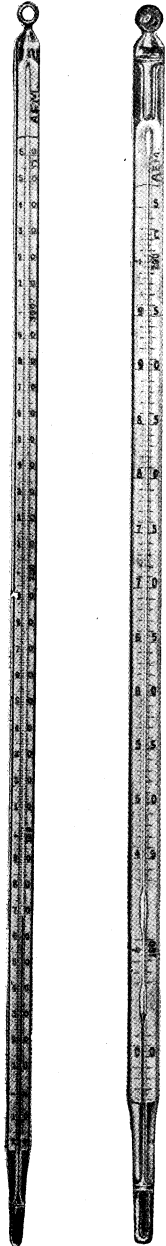
## DIFFERENTIAL THERMOMETERS

Beckmann's Type.

No. 1470	Beckmann's thermometer, original construction, without auxiliary scale, approximate scale range 5 or 6 degrees Centigrade in 1/100 subdivisions, with metal cap.....	Price, each Net	\$16.00
No. 1475	Beckmann's thermometer with auxiliary scale, approximate scale range 5 or 6 degrees Centigrade in 1/100 subdivisions .....	Net	19.00
No. 1480	Differential thermometer graduated on stem, approximate scale range 5 or 6 degrees Centigrade in 1/100 subdivisions, Net .....	Net	10.00

The above thermometers are made for freezing or boiling point determination, or for both.

When ordering, state for what purpose the instrument is desired.

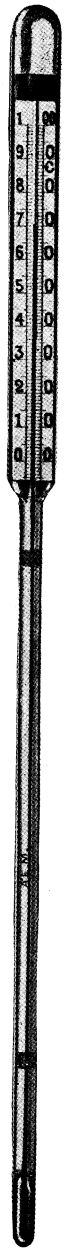


No. 1443 No. 1450

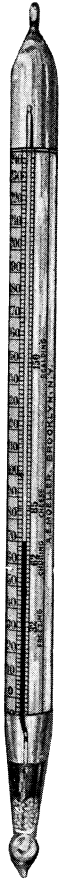


No. 1475

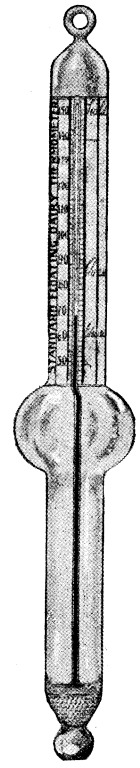
## GLASS FLOATING DAIRY THERMOMETERS



No. 1500



No. 1510



No. 1520

- |          |   |  |
|----------|---|--|
| No. 1500 | Long stem pasteurizing thermometer, stem 18",<br>porcelain scale to 100° C. ....  | Price, each<br>\$5.00                          |
| No. 1510 | 10" Pasteurizing thermometer, glass cylinder,<br>mercury filled tube, paper scale, shot weighted,<br>guaranteed to float upright; approximate scale<br>range 0 to 220° F. ....    | Price, per doz.<br>1 doz.<br>in a box<br>24.00 |
| No. 1520 | 10" Floating dairy thermometer, glass cylinder,<br>paper scale, mercury filled tube, shot weighted,<br>guaranteed to float upright; approximate scale<br>range 30 to 150° F. .... | Price, per doz.<br>30.00                       |
| No. 1540 | Churn thermometer engraved on stem, mercolor<br>tube; approximate scale range 0 to 120° F. ....   | 22.00  |

## BATTERY THERMOMETERS

For Testing Storage Batteries.



No. 1530



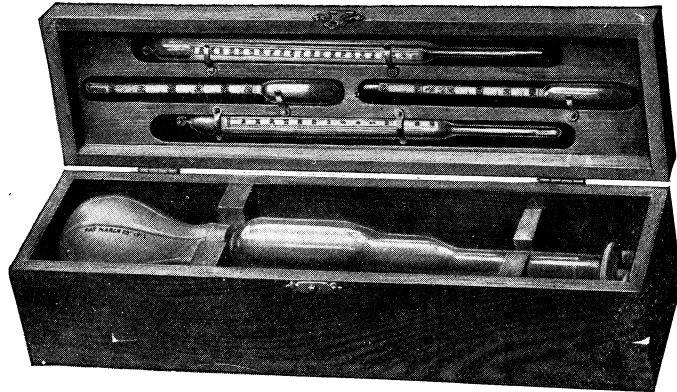
No. 1540

The battery thermometer is an instrument to be used in connection with a hydrometer to determine the exact specific gravity of the liquid in a storage battery. With the aid of correction on the thermometer, the true reading can be obtained without bringing the liquid to the normal temperature indicated on the hydrometer scale.

		Price, per doz.
No. 1530	9" Battery thermometer, glass cylinder, hand written paper scale with correction scale, calibrated for 2" immersion, mercury filled tube with cylindrical bulb; approximate scale range 0 to 220° F.....	\$24.00
No. 1540	Battery thermometer engraved on stem, without correction scale; mercolor tube; approximate scale rangé 0 to 120° F.	18.00

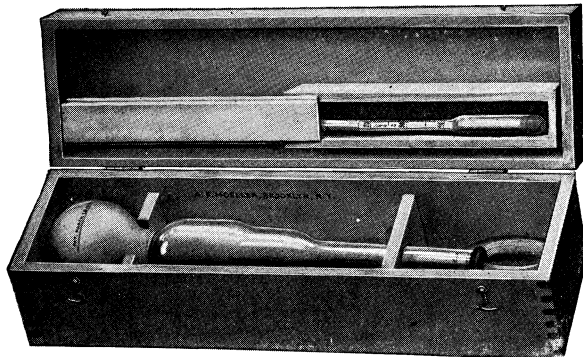
## STANDARD BATTERY TEST SET

For Testing Storage Batteries.



**No. 1550**

- |                 |  | Price, per Set |
|-----------------|--|----------------|
| <b>No. 1550</b> | Consisting of a Giant A. E. M. Patented Battery Syringe barrel, 9", with India rubber bulb and hose with two 6" hydrometers Baume and Specific Gravity scale from 1.000 to 1.250 and 1.150 to 1.400, two 9" thermometers with correction scale, range from 0 to 220° F., mounted on instrument board in polished oak box 15" long. Thousands of these sets are used in the U. S. Navy..... | \$12.00        |
| <b>No. 1551</b> | Giant Battery-test-o-meter, garage size, 9" barrel with India rubber bulb, one guaranteed hydrometer 1.150 to 1.400 Sp. Gr., packed in wood box.....   | 5.00           |
| <b>No. 1555</b> | One 6½" A. E. M. Patented barrel with rubber bulb and hose and two hydrometers, approximate length 4½", Baume and Specific Gravity scale from 1.000 to 1.250 and 1.150 to 1.400, mounted in polished hardwood box 10" long; otherwise the same as No. 1550.....  | 5.00           |



**No. 1560**

- No. 1560** Battery test set, 6½" A. E. M. Patented barrel with rubber bulb and hose connection, with one hydrometer approximate length 4½" with Baume and Specific Gravity scale 1.150 to 1.400, mounted in hardwood box. Price, per set.....\$3.00



## A. E. M. BATTERY-TEST-O-METER

For Testing Storage Batteries.

The A. E. M. Non-Stick Battery-test-o-meter is the result of years of experience and research in the making of specific gravity measuring instruments.

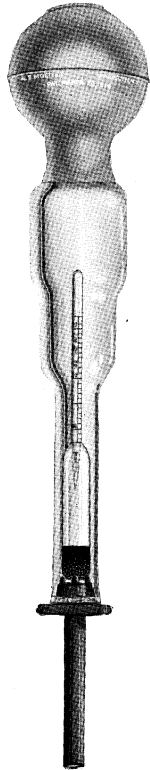
It does away with the testing vessel, and the pouring and upsetting of solutions in a glass jar.

A compression and releasing of the rubber bulb draws from the battery the electrolyte and at a glance the charge of the cell is known. A second compression of the bulb replaces the liquid into the proper cell without the loss of a drop.

The sticking of the hydrometer or float to the wall of the cylinder is done away with through the patented construction of the A. E. M. Battery-test-o-meter cylinder, and no matter how careless the user is in holding the instrument this construction assures at all times the vertical position of the hydrometer, thereby giving an accurate reading, in so much as the hydrometer cannot cling to the side of the barrel.

The breakage of the battery-test-o-meter is greatly reduced inasmuch as the rubber parts are constructed to absorb the shock should the instrument be accidentally dropped or come in contact with some solid object.

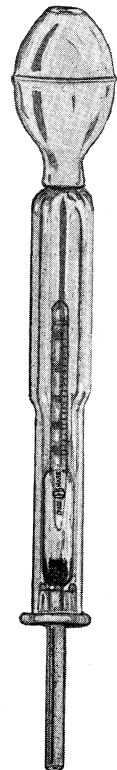
The above features are protected under Letters Patent No. 1177128 and Patent No. 1331165.



No. 1570



Container for Battery Test-O-Meter



No. 1575

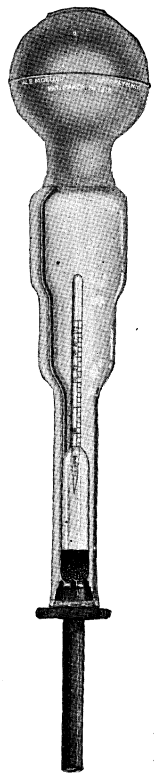
	Price, per doz.
No. 1570 Battery test set consists of a patented moulded glass cylinder, rubber suction bulb, and patented nozzle with a 3½" hydrometer with scale range from 1.100 to 1.300 Specific Gravity; packed in a cardboard container with tin cover.....	\$18.00
No. 1575 Battery test set, blown glass cylinder, rubber bulb and nozzle with 3½" hydrometer ranging from 1.000 1.300 Specific Gravity; packed in a cardboard container with tin cover..	12.00

Special prices in gross lots.

For hydrometers only, see page No. 89.

## A. E. M. FREEZ-O-METER

For Testing Freezing Solutions.



No. 1580

The Patented A. E. M. Freez-O-Meter Syringe is constructed to ascertain at what temperature a mixture of alcohol and water will freeze.

With a compression and releasing of the bulb, sufficient liquid is drawn from the automobile radiator, and at a glance it is known at what temperature the liquid will begin to freeze, and a second compression of the bulb replaces the liquid without spilling a drop or soiling your hands.

Since alcohol evaporates more readily than water, the liquid gradually loses its freezing resistance. If the A. E. M. Freez-O-Meter syringe is used from time to time, and if found necessary a small quantity of alcohol is added, you may rest assured that the radiator and cylinders are safe from destruction through freezing.

The A. E. M. Freez-O-Meter Syringe prevents the hydrometer from sticking to the side of the barrel and giving an incorrect reading. Through the patented construction of the cylinder, no matter how careless the user is in holding the instrument while making the test, this feature assures at all times the vertical position of the hydrometer, thereby giving an accurate reading inasmuch as the hydrometer cannot cling to the side of the barrel.

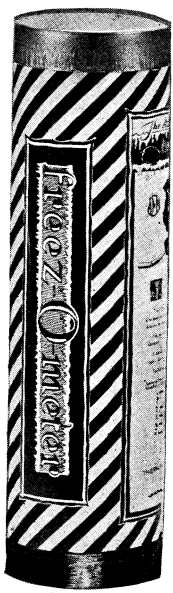


No. 1751

The breakage of the A. E. M. Freez-O-Meter is greatly reduced inasmuch as the rubber parts are constructed to absorb the shock should the instrument be accidentally dropped or come in contact with some solid object.

The above features are protected under Letters Patent No. 1177128 and Patent No. 1331165.

Directions for using the A. E. M. Freez-O-Meter accompany each instrument.



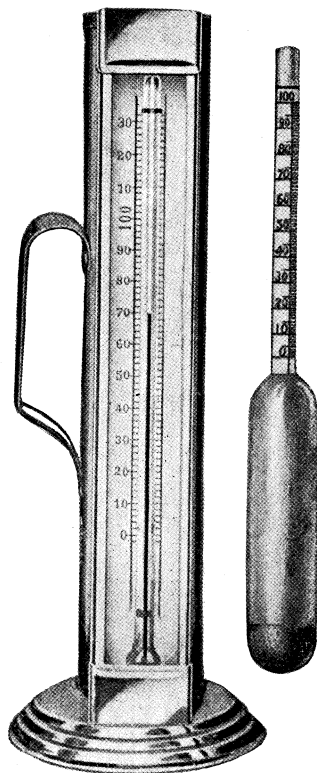
Container of Freez-O-Meter

	Price, per doz.
No. 1580 Freez-O-Meter test set, blown glass cylinder, rubber bulb and nozzle with 3½" Freez-O-Meter hydrometer; packed in cardboard container with tin cover. . . .	\$18.00
No. 1751 3½" Freez-O-Meter hydrometer only. . . .	6.00
No. 1752 6" Freez-O-Meter hydrometer combined with thermometer. . . . .	36.00

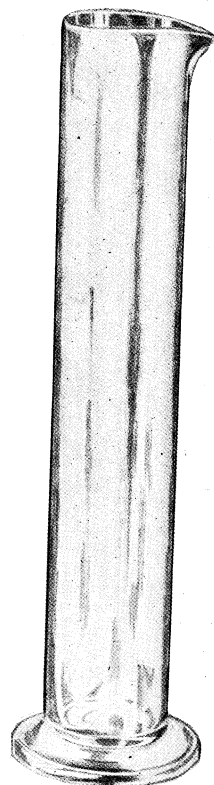
SPIRIT HYDROMETER CAN AND GLASS TEST JARS



No. 1752



No. 1590



No. 1595

8" Copper can, glass front, with silvered thermometer;  
 approximate scale 0 to 130° F..... \$10.00

Spirit hydrometer with Proof and per cent. scale..... 3.00

GLASS TEST JARS WITH FOOT AND LIP

Dimensions.....	10 x 2"	12 x 2"	14 x 2"	16 x 2"
Price, Per dozen..	\$8.00	10.00	12.00	18.00

## HYDROMETERS

The hydrometer is a scientific instrument and is based on the principal of the physical law, that a solid body displaces its own weight of a liquid in which it floats, and is mainly used to ascertain the relative density or weight of liquids, hence a hydrometer of constant weight and proportion.

The hydrometer, when placed in a liquid of a known density, will always sink to the same depth unless the temperature of the liquid changes.

To ascertain the true density of a liquid, it is absolutely necessary that the liquid is at a temperature of 60° F. for the reason that as the liquid expands or contracts with varying temperatures, the density of the liquid changes.

A thermometer should always be used in connection with the hydrometer. As a matter of convenience hydrometers are made with thermometers and correction scales combined to make correction of the hydrometer reading should the liquid be lower or higher than the standard temperature. This standard temperature is, unless otherwise specified, 60° F. meaning that to obtain the true reading it must be taken in a fluid whose temperature is 60° F. The indication of the hydrometer then shows the exact comparison in weight or density between the fluid tested and distilled water at 60° F.

Hydrometers can be divided into two general classes, those for use in liquids heavier than water, and those for use in liquids lighter than water. The scale most generally used on standard hydrometers is known as Specific Gravity, with distilled water as 1° for the initial point. This is written 1.000 and is divided decimally; below 1.000 for liquids lighter than water and above 1.000 for liquids heavier than water. Thus a liquid with a density of 50% greater than water will read 1.500 Specific Gravity and a liquid with a density of 25% lighter than water will read 0.750 Specific Gravity.

Various other scales are however used and established in commercial practice and are known by the name of their originator, as Baumé, Balling, Brix, etc. In the following pages are found Tables for comparing the same.

### The Proper Way to Use a Hydrometer.

To obtain accurate results the hydrometer must be clean, and all precautions taken to keep the liquid well stirred and free from dirt.

Readings of the hydrometer should be taken in Transparent Liquid from below the surface of the liquid, at the point where the surface of the liquid cuts the stem of the instrument. When, however, the liquid is opaque the reading should be ascertained by taking the indications at the top of the meniscus, that is the surface of the liquid drawn up around the stem, allowance being made for the height to which this rises above the actual surface of the liquid. This will then indicate the true reading.

The A. E. M. Precision Hydrometers are instruments of the highest grade, guaranteed to be absolutely accurate and of the finest workmanship.

## A. E. M. PRECISION HYDROMETERS

### Baume Scale for Heavy Liquids.

No.	Scale	Graduation	Price, Each
1600	0° to 10°	1-10	\$2.25
1601	10° to 20°	1-10	2.25
1602	20° to 30°	1-10	2.25
1603	30° to 40°	1-10	2.25
1604	40° to 50°	1-10	2.25
1605	50° to 60°	1-10	2.25
1607	60° to 70°	1-10	2.25

### Baume Scale for Light Liquids

1620	0° to 10°	1-10	2.25
1621	10° to 20°	1-10	2.25
1622	20° to 30°	1-10	2.25
1623	30° to 40°	1-10	2.25
1624	40° to 50°	1-10	2.25
1625	50° to 60°	1-10	2.25
1626	60° to 70°	1-10	2.25
1627	70° to 80°	1-10	2.25
1628	80° to 90°	1-10	2.25

### Specific Gravity Scale for Heavy Liquids

1650	1.100° to 1.200°	.002	2.85
1651	1.200° to 1.300°	.002	2.85
1652	1.300° to 1.400°	.002	2.85
1653	1.400° to 1.500°	.002	2.85
1654	1.500° to 1.600°	.002	2.85
1655	1.600° to 1.700°	.002	2.85
1656	1.700° to 1.800°	.002	2.85
1657	1.800° to 1.900°	.002	3.00
1658	1.900° to 2.000°	.002	3.00

### Specific Gravity Scale for Light Liquids

1660	1.000° to 0.950°	.001	3.25
1661	0.950° to 0.900°	.001	3.25
1662	0.900° to 0.850°	.001	3.25
1663	0.850° to 0.800°	.001	3.25
1664	0.800° to 0.750°	.001	3.25
1665	0.750° to 0.650°	.001	4.50

### Sugar Brix Scale Temperature 17½° Cent.

1675	0° to 10°	1-10	2.25
1676	10° to 20°	1-10	2.25
1677	20° to 30°	1-10	2.25
1678	30° to 40°	1-10	2.25
1679	40° to 50°	1-10	2.25
1680	50° to 60°	1-10	2.25
1681	60° to 70°	1-10	2.25
1682	70° to 80°	1-10	2.25
1683	80° to 90°	1-10	2.25
1685	-5° to +5°	1-10	2.25

NOTE:—All hydrometers are graduated at Normal Temperature, (unless otherwise stated) 60° F.; approximate length 11".

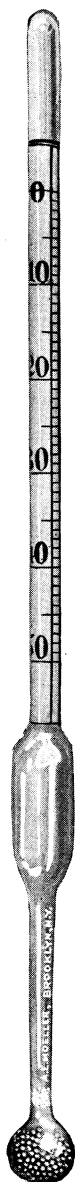
# A. E. M. HYDROMETERS

CONTINUED

For Industrial Purposes.



No. 1605



No. 1718



No. 1719



No. 1755

## GLASS HYDROMETERS

For Industrial Purposes.

Note: Hydrometers in this list are arranged alphabetically.  
 Glass Hydrometers marked "S" are weighted with shot; marked "M"  
 with Mercury.

		Price, per doz.
S. No. 1701	Acid Hydrometer, Baume scale.....	\$12.00
S. No. 1702	Acid Hydrometer, Baume and Specific Gravity scale...	12.00
M. No. 1714	Actinometer, Special scale for silver solution with Test Jar .....	9.00
	Alcohol, see Spirit.	
S. No. 1715	Alkali Hydrometer, Baume scale, 0 to 60°.....	12.00
S. No. 1718	Ammonia Hydrometer, Baume scale, 10 to 50°.....	12.00
S. No. 1719	Baume Hydrometer for heavy liquids, 0 to 70°.....	12.00
S. No. 1720	Baume Hydrometer for heavy liquids with Specific Gravity Scale .....	12.00
S. No. 1728	Baume Hydrometer for light liquids, 10 to 100°.....	12.00
S. No. 1729	Baume Hydrometer for light liquids with Specific Gravity scale, 10 to 100° Baume, 1.000 to .700 Sp. Gr....	12.00
S. No. 1730	Barkometer, 0 to 80°.....	12.00
	Battery-test-o-meter, see page No. 83.	
S. No. 1740	Battery Hydrometer, Specific Gravity scale, 1.150 to 1.300°, temp. 70° 3¼" long.....	6.00
S. No. 1741	Battery Hydrometer, Baume and Specific Gravity scale, 1.000° to 1.250°, temp. 80°, 4½" long.....	9.00
S. No. 1742	Battery Hydrometer, Baume and Specific Gravity scale, 1.150 to 1.400, temp. 80°, 4½" long.....	9.00
S. No. 1743	Battery Hydrometer, Baume and Specific Gravity scale, 1.000 to 1.250, temp. 80°, 6" long.....	12.00
S. No. 1744	Battery Hydrometer, Baume and Specific Gravity scale, 1.150 to 1.400, temp. 80°, 6" long.....	12.00
	Beer Hydrometers, see Saccharometer and Sugar.	
	Benzine Hydrometers, see Gasoline.	
	Brine Hydrometers, see Salt.	
S. No. 1750	Calcium Chloride Salometer, 0 to 120.....	15.00
	Coal Oil, see Baume for Light Liquids.	
	Freezometers, see page No. 84.	
S. No. 1751	Freezometer Hydrometer .....	6.00
S. No. 1752	Freezometer Hydrometer and thermometer combined with glass jar in box.....	36.00
S. No. 1754	Gasoline Hydrometer, 4", 50 to 70°, with glass jar, in box .....	15.00
M. No. 1755	Gasoline Hydrometer with thermometer, 40 to 90°.....	36.00
S. No. 1756	Glue Hydrometer, Baume, 0 to 35°.....	12.00
S. No. 1757	Glycerine Hydrometer, Baume, scale 20 to 40°.....	12.00
	Heavy Liquids, see Baume and Specific Gravity.	
M. No. 1758	Lactometer, Milk, per cent. scale, New York Board of Health Pattern, 0 to 120°.....	12.00
M. No. 1759	Lactometer for milk, Spence, New York State Dairy Commission Pattern, scale 0 to 120°.....	12.00
M. No. 1761	Lactodensimeter for Milk, Quivennes Pattern, scale 14.42 (1.014 to 1.042 Sp. Gr.) with thermometer in top of stem .....	\$72.00
	Light Liquids, see Baume and Specific Gravity.	

## A. E. M. GLASS HYDROMETERS

CONTINUED

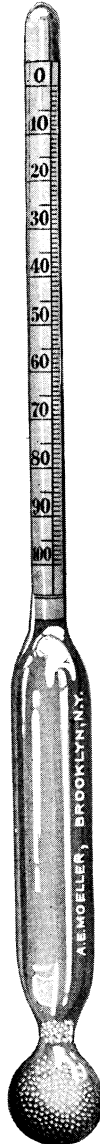
For Industrial Purposes.



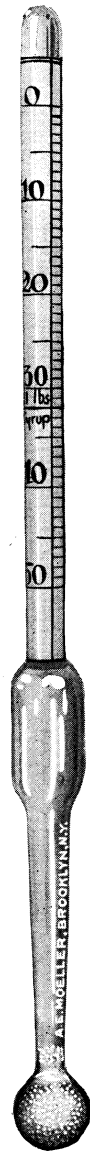
No. 1761



No. 1767



No. 1768



No. 1789

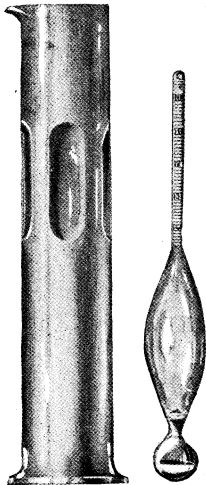


## HYDROMETERS

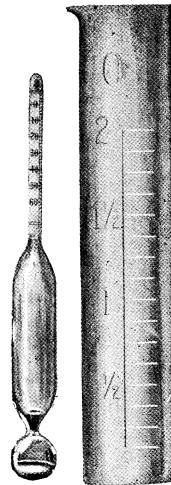
(CONTINUED)

		Price, per doz.
S. No. 1762	Lime Sulphur Hydrometer, New York and Pennsylvania Pattern 0 to 38 Baume, 1.000 to 1.350 Sp. Gr. Lye Hydrometer, see Alkali. Milk Hydrometer, see Lactometer. Naptha Hydrometer, see Baume for Light Liquids. Petroleum Hydrometer, see Baume for Light Liquids.	15.00
S. No. 1765	Saccharometer for Beer, 0 to 14.....	12.00
S. No. 1767	Salinometer Hydrometer for Sea Water 0° to 5-32° temperature, 190°, 200°, 210° F. .... Salinometer, Metal, see page No. 21.	18.00
S. No. 1768	Salt Hydrometer, scale 0 to 100°.....	12.00
S. No. 1769	Shellac Hydrometer, 0 to 25 Baume scale..... Silver Solution Hydrometer, see Actinometer,	12.00
S. No. 1770	Specific Gravity Scale for heavy liquids 1.000 to 2.000 graduated in .01 Sp. Gr. .... Specific Gravity set of five hydrometers from 1.000 to 2.000 graduated in .005 Sp. Gr.	12.00
S. No. 1771	1.000 to 1.200°.....	24.00
S. No. 1772	1.200 to 1.400°.....	24.00
S. No. 1773	1.400 to 1.600°.....	24.00
S. No. 1774	1.600 to 1.800°.....	24.00
S. No. 1775	1.800 to 2.000°.....	24.00
S. No. 1780	Specific Gravity for light liquids, 1.000° to 0.600°..... Specific Gravity set of four hydrometers, each stem covering .100° from	12.00
S. No. 1781	1.000 to 0.900°.....	24.00
S. No. 1782	0.900 to 0.800°.....	24.00
S. No. 1783	0.800 to 0.700°.....	24.00
S. No. 1784	0.700 to 0.600°.....	24.00
S. No. 1785	Spirit Proof and Tralle scale, 100° below to 100° above Spirit Hydrometer Can, see page No. 91.	12.00
S. No. 1786	Sugar, Ballings scale 0 to 70°.....	18.00
S. No. 1787	Sugar, Brix scale 0 to 30°.....	18.00
S. No. 1788	Syrup, Baume scale 0 to 50°.....	12.00
S. No. 1789	Syrup, Maple, Baume 0 to 50° market syrup 11 lbs. to the gallon .....	15.00
S. No. 1790	Twaddle Scale, No. 1, 0 to 24°.....	12.00
S. No. 1791	Twaddle Scale, No. 2, 24° to 48°.....	12.00
S. No. 1792	Twaddle Scale, No. 3, 48° to 72°.....	12.00
S. No. 1793	Twaddle Scale, No. 4, 72° to 100°.....	12.00
S. No. 1794	Twaddle Scale, No. 5, 100° to 134°.....	12.00
S. No. 1795	Twaddle Scale, No. 6, 134° to 180°.....	12.00
S. No. 1796	Universal Hydrometer, Baume and Specific Gravity scales, 0 to 70°, and 10° to 100°, 1° graduation, and 0.700 to 1.900 Sp. Gr., .005 graduation, 17" long..... Urinometer, see page No. 92.	36.00
S. No. 1825	Varnish Hydrometer, 10° to 80°, Baume with Specific Gravity scale, 1.000° to 0.666, with thermometer.....	15.00
S. No. 1830	Vinegar Solidimeter as used by the New York Dept. of Agriculture .....	18.00
S. No. 1840	Wine, Low, Hydrometer 0 to 50°.....	15.00

## URINOMETERS AND TEST JARS



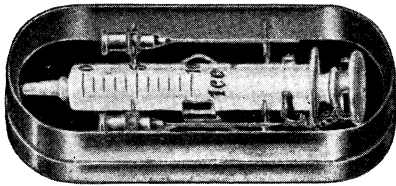
**No. 1800**



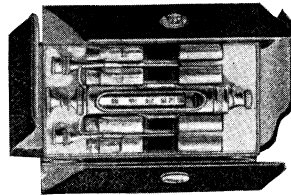
**No. 1810**

		Price, per doz.
<b>No. 1800</b>	Urinometer, Squibb's Pattern, Specific Gravity scale 1.005 to 1.035 in .01° graduations; fluted test jar with foot and lip .....	\$18.00
<b>No. 1801</b>	Same as No. 1800 with engraved stem thermometer.....	30.00
<b>No. 1810</b>	Urinometer Test Set, hand written paper scale, 0 to 40°, with test jar; with foot and lip, graduated 0 to 40°, temperature 77° F. ....	30.00

## HYPODERMIC SYRINGES

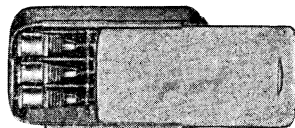


No. 1850



No. 1875

		Price, per doz.
No. 1850	Glass barrel with air-tight ground in glass piston with chain and two needles, in nickle-plated case, 1 C C. ....	\$18.00
No. 1851	2 C C. ....	21.00
No. 1852	5 C C. ....	39.00
No. 1853	10 C C. ....	50.50
No. 1854	20 C C. ....	72.00
No. 1875	Metal Aseptic hypodermic syringe, four vials, and two needles in Morocco leather case. ....	44.00
No. 1890	Sliding cover aluminum case holding six needles. ....	20.00



No. 1890

## CLINICAL THERMOMETERS

The A. E. M. Clinical Thermometers are made of the best glass obtainable for the purpose, and only skilled and careful workmen are employed for this class of work. The bulb is blown of special Jena glass and filled with pure mercury. The tubes are well seasoned before pointing and graduating. The graduations and numbers are clearly engraved on the stem. All A. E. M. Thermometers are carefully retested before shipping. Any thermometer with a greater variation than .02 F., or its equivalent in C is rejected and not offered for sale. Each thermometer is furnished with a certificate in accordance with the requirements of the New York Board of Health.

The A. E. M. Clinical Thermometer stands pre-eminently at the head of all clinical thermometers. Our one aim in making these thermometers is to produce as perfect an instrument as a most complete equipment, large capital, and experience of fifty-six years' thermometer making enable us to make.

The terms "half minute," "one minute," and "two minutes" are relative and mean that a thermometer marked "half minute" will register in one half the time of a thermometer marked "one minute."

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## CENTIGRADE SCALE CLINICAL THERMOMETERS

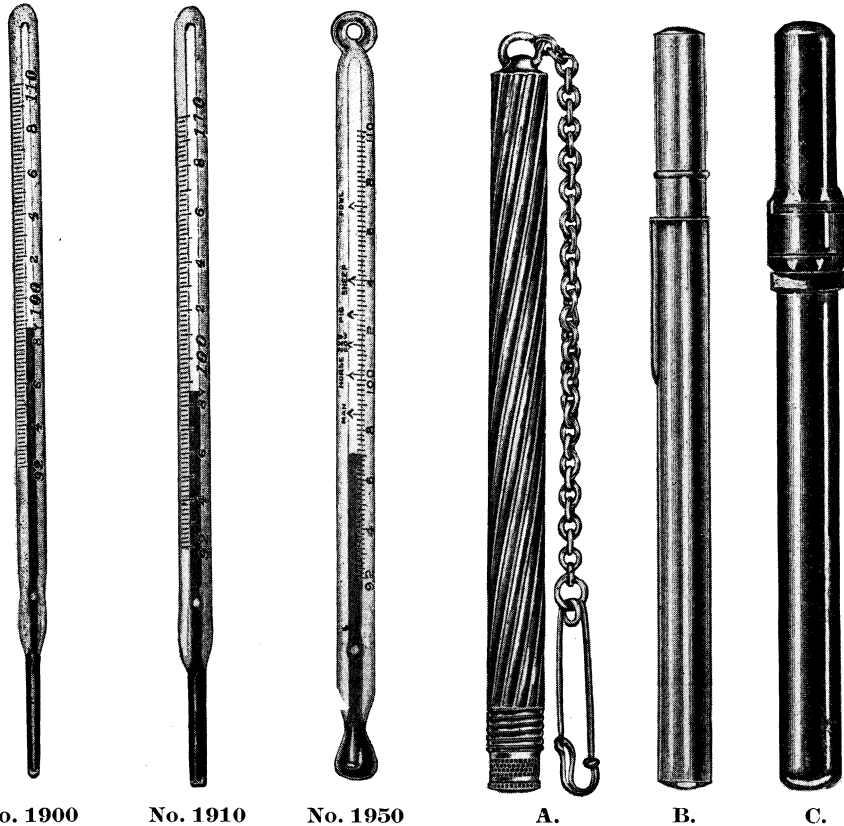
Any grade clinical thermometer will be made to order with Centigrade scale in lots of one dozen or more at the same price as the Fahrenheit scale. For less than one dozen add 20% to list.

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## FAHRENHEIT AND CENTIGRADE SCALE CLINICAL THERMOMETERS

Any grade clinical thermometer will be made to order with Fahrenheit and Centigrade scale in lots of one dozen or more at an addition of \$1.00 per dozen to the catalogue list price. For less than one dozen add 25% to the list price.

## CLINICAL THERMOMETERS AND CASES



		Price, per dozen, Including Cases, and Certificates:
<b>No. 1900</b>	4" Standard Clinical Thermometers, guaranteed to register the maximum temperature in thirty seconds.....	\$26.00
<b>No. 1910</b>	4" Standard Clinical Thermometers, guaranteed to register the maximum temperature in one minute.....	24.00
<b>No. 1920</b>	4" Standard Clinical Thermometers, guaranteed to register the maximum temperature in two minutes.....	22.00
<b>No. 1950</b>	Veterinary Thermometer with ring top, pear shaped bulb, in hard rubber case.	
	A—Twist aluminum case with chain and pin.....	3.00
	B—Nickel slip case.....	1.50
	C—Hard rubber .....	2.00

When ordering, state what style case is desired.

## HYDROMETER COMPARISONS

Beaume and Specific Gravity Scales.

DEGREES BEAUME	SPECIFIC GRAVITY Liquids Heavier than Water	SPECIFIC GRAVITY Liquids Lighter than Water	DEGREES BEAUME	SPECIFIC GRAVITY Liquids Heavier than Water	SPECIFIC GRAVITY Liquids Lighter than Water
0	1.0000	.....	51	1.5426	0.7735
1	1.0069	.....	52	1.5591	0.7692
2	1.0140	.....	53	1.5761	0.7650
3	1.0211	.....	54	1.5934	0.7609
4	1.0284	.....	55	1.6111	0.7568
5	1.0357	.....	56	1.6292	0.7527
6	1.0432	.....	57	1.6477	0.7487
7	1.0507	.....	58	1.6667	0.7447
8	1.0584	.....	59	1.6860	0.7407
9	1.0662	.....	60	1.7059	0.7368
10	1.0741	1.000	61	1.7262	0.7329
11	1.0821	0.9929	62	1.7470	0.7292
12	1.0902	0.9859	63	1.7683	0.7254
13	1.0985	0.9790	64	1.7901	0.7217
14	1.1069	0.9722	65	1.8125	0.7179
15	1.1154	0.9655	66	1.8354	0.7143
16	1.1240	0.9589	67	1.8590	0.7107
17	1.1328	0.9524	68	1.8831	0.7071
18	1.1417	0.9459	69	1.9079	0.7035
19	1.1508	0.9396	70	1.9333	0.7000
20	1.1600	0.9333	71	1.9595	0.6965
21	1.1694	0.9272	72	1.9863	0.6931
22	1.1789	0.9211	73	2.0139	0.6897
23	1.1885	0.9150	74	2.0423	0.6863
24	1.1983	0.9091	75	2.0714	0.6829
25	1.2083	0.9032	76	.....	0.6796
26	1.2185	0.8974	77	.....	0.6763
27	1.2288	0.8917	78	.....	0.6731
28	1.2393	0.8861	79	.....	0.6699
29	1.2500	0.8805	80	.....	0.6667
30	1.2609	0.8750	81	.....	0.6635
31	1.2719	0.8696	82	.....	0.6604
32	1.2832	0.8642	83	.....	0.6573
33	1.2946	0.8589	84	.....	0.6542
34	1.3063	0.8537	85	.....	0.6512
35	1.3182	0.8485	86	.....	0.6482
36	1.3303	0.8433	87	.....	0.6452
37	1.3426	0.8383	88	.....	0.6422
38	1.3551	0.8333	89	.....	0.6393
39	1.3679	0.8285	90	.....	0.6364
40	1.3810	0.8234	91	.....	0.6335
41	1.3942	0.8187	92	.....	0.6305
42	1.4078	0.8139	93	.....	0.6278
43	1.4216	0.8092	94	.....	0.6250
44	1.4356	0.8046	95	.....	0.6222
45	1.4500	0.8000	96	.....	0.6195
45	1.4646	0.7955	97	.....	0.6167
47	1.4796	0.7909	98	.....	0.6140
48	1.4948	0.7865	99	.....	0.6114
49	1.5104	0.7821	100	.....	0.6087
50	1.5263	0.7777	...	.....	.....

## To Convert the Reading of One Thermometer Scale Into That of Another. Observe the Following Rules:

To convert Fahrenheit degrees into those of Centigrade, subtract 32, divide by 9, and multiply by 5.

For example, take the boiling point Fahrenheit, 212°.  $212 - 32 = 180$ ;  $180 \div 9 \times 5 = 100$ .

To convert Fahrenheit degrees into those of Reaumur, subtract 32, divide by 9, and multiply by 4.

To convert Centigrade degrees into those of Fahrenheit, divide by 5, multiply by 9, add 32.

To convert Reaumur degrees into those of Fahrenheit, divide by 4, multiply by 9, and add 32.

To convert Centigrade degrees into those of Reaumur, divide by 5, and multiply the quotient by 4.

To convert Reaumur degrees into those of Centigrade, divide by 4, and multiply the quotient by 5.

### COMPARISON OF THERMOMETRIC SCALES.

Cels	Fahr	Réau	Cels	Fahr	Réau	Cels	Fahr	Réau	Cels	Fahr	Réau
-40	-40	-32	6	42,8	4,8	52	125,6	41,6	98	208,4	78,4
-39	-38,2	-31,2	7	44,6	5,6	53	127,4	42,4	99	210,2	79,2
-38	-36,4	-30,4	8	46,4	6,4	54	129,2	43,2	100	212,0	80,0
-37	-34,6	-29,6	9	48,2	7,2	55	131,0	44,0	101	213,8	80,8
-36	-32,8	-28,8	10	50,0	8,0	56	132,8	44,8	102	215,6	81,6
-35	-31	-28	11	51,8	8,8	57	134,6	45,6	103	217,4	82,4
-34	-29,2	-27,2	12	53,6	9,6	58	136,4	46,4	104	219,2	83,2
-33	-27,4	-26,4	13	55,4	10,4	59	138,2	47,2	105	221,0	84,0
-32	-25,6	-25,6	14	57,2	11,2	60	140,0	48,0	106	222,8	84,8
-31	-23,8	-24,8	15	59,0	12,0	61	151,8	48,8	107	224,6	85,6
-30	-22	-24	16	60,8	12,8	62	143,6	49,6	108	226,4	86,4
-29	-20,2	-23,2	17	62,6	13,6	63	154,4	50,4	109	228,2	87,2
-28	-18,4	-22,4	18	64,4	14,4	64	147,2	51,2	110	230,0	88,0
-27	-16,6	-21,6	19	66,2	15,2	65	149,0	52,0	111	231,8	88,8
-26	-14,8	-20,8	20	68,0	16,0	66	150,8	52,8	112	233,6	89,6
-25	-13	-20	21	69,8	16,8	67	152,6	53,6	113	235,4	90,4
-24	-11,2	-19,2	22	71,6	17,6	68	154,4	54,4	114	237,2	91,2
-23	-9,4	-18,4	23	73,4	18,4	69	156,2	55,2	115	239,0	92,0
-22	-7,6	-17,6	24	75,2	19,2	70	158,0	56,0	116	240,8	92,8
-21	-5,8	-16,8	25	77,0	20,0	71	159,8	56,8	117	242,6	93,6
-20	-4	-16	26	78,8	20,8	72	161,6	57,6	118	244,4	94,4
-19	-2,2	-15,2	27	80,6	21,6	73	163,4	58,4	119	246,2	95,2
-18	-0,4	-14,4	28	82,4	22,4	74	165,2	59,2	120	248,0	96,0
-17	1,4	-13,6	29	84,2	23,2	75	167,0	60,0	121	249,8	96,8
-16	3,2	-12,8	30	86,0	24,0	76	168,8	60,8	122	251,6	97,6
-15	5,0	-12,0	31	87,8	24,8	77	170,6	61,6	123	253,4	98,4
-14	6,8	-11,2	32	89,6	25,6	78	172,4	62,4	124	255,2	99,2
-13	8,6	-10,4	33	91,4	26,4	79	174,2	63,2	125	257,0	100,0
-12	10,4	-9,6	34	93,2	27,2	80	176,0	64,0	126	258,8	100,8
-11	12,2	-8,8	35	95,0	28,0	81	177,8	64,8	127	260,6	101,6
-10	14,0	-8,0	36	96,8	28,8	82	179,6	65,6	128	262,4	102,4
-9	15,8	-7,2	37	98,6	29,6	83	181,4	66,4	129	264,2	103,2
-8	17,6	-6,4	38	100,4	30,4	84	183,2	67,2	130	266,0	104,0
-7	19,4	-5,6	39	102,2	31,2	85	185,0	68,0	131	267,8	104,8
-6	21,2	-4,8	40	104,0	32,0	86	186,8	68,8	132	269,6	105,6
-5	23,0	-4,0	41	105,8	32,8	87	188,6	69,6	133	271,4	106,4
-4	24,8	-3,2	42	107,6	33,6	88	190,4	70,4	134	273,2	107,2
-3	26,6	-2,4	43	109,4	34,4	89	192,2	71,2	135	275,0	108,0
-2	28,4	-1,6	44	111,2	35,2	90	194,0	72,0	136	276,8	108,8
-1	30,2	-0,8	45	113,0	36,0	91	195,8	72,8	137	278,6	108,6
0	32,0	0	45	114,8	36,8	92	197,6	73,6	138	280,4	110,4
1	33,8	0,8	47	116,6	37,6	93	199,4	74,4	139	282,2	111,2
2	35,6	1,6	48	118,4	38,4	94	201,2	75,2	140	284,0	112,0
3	37,4	2,4	49	120,2	39,2	95	203,0	76,0	141	285,8	112,8
4	39,2	3,2	50	122,0	40,0	96	204,8	76,8	142	287,6	113,6
5	41,0	4,0	51	123,8	40,8	97	206,6	77,6	143	289,4	114,4

## LOW TEMPERATURES

### Mixtures for Producing Cold

Parts by weight	REAGENTS	Initial Tempera- ture of Materials	Minimum Tempera- ture Produced	Total Amount of Reduction
2	Snow or pounded Ice	}	.....	-5° F.
1	Sodium Chloride (common salt)			
5	Snow or pounded Ice	}	.....	-12
2	Sodium Chloride (common salt)			
1	Ammonium Chloride (sal-ammoniac)	}	.....	-18
24	Snow or pounded Ice			
10	Sodium Chloride (common salt)			
5	Ammonium Chloride (sal-ammoniac)	}	.....	-25
5	Potassium Nitrate (saltpetre)			
12	Snow or pounded Ice	}	.....	-23
5	Sodium Chloride (common salt)			
5	Ammonium Nitrate			
3	Snow	}	32° F.	-23
2	Dilute Sulphuric Acid			
8	Snow	}	32	-27
5	Hydrochloric Acid (Muriatic)			
7	Snow	}	32	-30
4	Dilute Nitric Acid			
4	Snow	}	32	-40
5	Calcium Chloride (granular)			
2	Snow	}	32	-50
3	Crystalized Calcium Chloride			
3	Snow	}	32	-51
4	Potash			
5	Ammonium Chloride (sal-ammoniac)	}	50	10
10	Potassium Nitrate (salpetre)			
10	Water			
5	Ammonium Chloride (sal-ammoniac)	}	50	4
5	Potassium Nitrate (salpetre)			
8	Sodium Sulphate (Glauber's Salts)			
16	Water	}	50	4
1	Ammonium Nitrate			
1	Water	}	50	3
5	Sodium Sulphate (Glauber's Salts)			
4	Dilute Sulphuric Acid	}	50	0
8	Sodium Sulphate (Glauber's Salts)			
5	Hydrochloric Acid (Muriatic)	}	50	-3
3	Sodium Sulphate (Glauber's Salts)			
2	Dilute Nitric Acid	}	50	-7
1	Ammonium Nitrate			
1	Sodium Carbonate			
1	Water	}	50	-10
6	Sodium Sulphate (Glauber's Salts)			
4	Ammonium Chloride	}	50	-12
2	Potassium Nitrate			
4	Dilute Nitric Acid	}	50	-14
9	Sodium Phosphate			
4	Dilute Nitric Acid	}	50	64
6	Sodium Sulphate (Glauber's Salts)			
5	Ammonium Nitrate			
4	Dilute Nitric Acid			



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## RULES FOR FORE TELLING THE WEATHER

### Rising Barometer.

- A rapid rise indicates sudden change or unsettled weather.
- A gradual rise indicates settled weather.
- A rise in moist air at a low temperature indicates wind with rain or snow.
- A rise in dry air indicates fine weather.

### Steady Barometer

- A steady barometer and thermometer indicates no change in weather.

### Falling Barometer

- A rapid fall indicates a coming storm. When accompanied with a strong North wind and falling temperature it indicates rain and hail in summer, and snow in winter.
- A decided fall followed by a rise in cloudy weather indicates the passage of a storm on one side.

Note: The barometer has a diurnal variation. The high readings begin from 9 to 11 o'clock both morning and evening and the low readings between 3 and 5 o'clock.

On the Atlantic Ocean the average daily range is 0.125". When on land, the changes of Barometer and thermometer must be observed with regard to local conditions to insure reliable forecasts.

PREFERRED TRADE DISCOUNT SHEET

APPLYING TO CATALOGUE No. 21

Page		
2	Advertising thermometers .....	33 1/2 & 10%
3	Cardboard thermometers .....	33 1/2 & 10%
4-5	Household thermometers .....	50 & 10%
6	Railroad coach thermometers .....	50%
7	Cabinet thermometers .....	50 & 10%
8	Porcelain front cabinet thermometers .....	50 & 10%
9	Plate glass window thermometers .....	50 & 10%
10	Copper and Tin case thermometers .....	50 & 10%
	In gross lots .....	50, 10 & 10%
11	Copper and Tin case thermometers .....	50 & 10%
	In gross lots .....	50, 10 & 10%
12	Copper and wood case thermometers .....	50, 10 & 10%
	In gross lots .....	50, 10, 10 & 10%
13	Soil or hot bed thermometers .....	50, 10 & 5%
14	Dairy thermometers .....	50, 10 & 10%
	In gross lots .....	50, 25 & 20%
15	Meat packers thermometers .....	50 & 10%
	In gross lots .....	50, 10 & 10%
16	Bath thermometers .....	50 & 10%
	In gross lots .....	50, 25, 10 & 5%
17	Photographers thermometers .....	50 & 25%
	In gross lots .....	50, 25 & 25%
17	Photographers hydrometers .....	50 & 25%
18	Japanning and Bake oven thermometers .....	50%
19	Mineral or Coal oil thermometers .....	50 & 10%
20	Refrigeration thermometers .....	50%
21	Salinometer pots thermometers and hydrometers .....	50 & 10%
22	Sounding tubes and Fathom rules .....	50%
23	Sounding sheaths and leads .....	50%
24	Ships Clinometer .....	50 & 10%
25	Marine and Locomotive clocks .....	Price upon application
26	Aneroid barometers .....	50 & 25%
27	Marine barometers .....	33 1/2%
27	Observatory barometer .....	25%
28	Self Recording and Home barometer .....	25%
29	Maximum and minimum thermometers .....	50%
30	Self registering thermometers .....	50 & 10%
31	Psychrometers .....	50%
32	Masons hygrometers .....	50%
	In gross lots .....	50 & 20%
33	Hygrometers .....	50 & 10%
34	Sling psychrometers .....	50 & 10%
35	Incubator hygrometers .....	50 & 10%
	(Gross prices quoted upon application)	
37	Electric lighted incubator thermometer and hygrometer .....	50%
38-41	Incubator and brooder thermometers .....	50 & 10%
	(Gross lot prices quoted upon application)	
42	Electric alarm thermometers .....	50%
44	High temperature thermometers .....	50 & 10%
45	Flue Gas thermometers .....	50 & 10%
46	Hand testing thermometers .....	50 & 10%
47	Long stem thermometers .....	50 & 10%
48	Mechanical thermometers .....	33 1/2%
49	Still thermometers .....	50 & 10%
50	Mechanical thermometers .....	50 & 10%
51	Mechanical thermometers .....	50 & 10%
52	Separable sockets .....	50 & 10%
54	Insulated mechanical thermometers .....	50 & 10%

(OVER)

A.

RU

55	Mechanical thermometers .....	50 & 10%
57	Mechanical thermometers .....	50 & 10%
59	Mechanical thermometers .....	50 & 10%
60	Mechanical thermometers .....	50%
61	Mechanical thermometers .....	50 & 10%
62	Mechanical thermometers .....	40%
63	Mechanical thermometers .....	40%
64	Mechanical thermometers .....	50 & 10%
65	House Heater thermometers .....	66% <sup>3</sup> / <sub>4</sub> %
66	Midget thermometers .....	50 & 10%
67	Cylindrical case thermometers .....	60%
	(In quantity lots, price upon application)	
68	Autostat .....	50%
	In lots of 25 .....	50 & 20%
69	Recording thermometers .....	Price upon application
70	Pyrometers .....	Price upon application
	Iron Cases .....	50, 10 & 5%
	Brass Cases .....	30, 10 & 5%
71	Ammonia Gauges .....	50, 10 & 10%
	(In quantity lots, price upon application)	
72	Low pressure draft gauges .....	50%
73	Differential draft gauges .....	50%
74	Mercury vacuum gauges .....	50%
75	Water boiler test set .....	50, 10 & 10%
76	Armored chemical thermometers .....	60 & 10%
	In dozen lots .....	60, 10, 10 & 10%
77	Engraved stem chemical thermometers .....	50%
78	Engraved stem thermometers .....	50%
79	Chemical thermometers .....	25 & 25%
80	Dairy thermometers .....	50 & 50%
	In gross lots .....	50, 50 & 25%
81	Battery thermometers .....	50%
82	Standard battery test sets .....	50 & 10%
83	Battery-test-o-meters .....	50 & 10%
	In gross lots .....	50 & 33 <sup>1</sup> / <sub>2</sub> %
84	Freezometers .....	50 & 10%
	In gross lots .....	50 & 33 <sup>1</sup> / <sub>2</sub> %
85	Spirit Hydrometer & Can .....	50 & 10%
	Spirit Hydrometer in gross lots .....	66% <sup>3</sup> / <sub>4</sub> & 25%
87	Precision Hydrometers .....	50%
	In dozen lots .....	50 & 25%
89-91	Glass Hydrometers .....	50%
	(Gross lots quoted on application)	
92	Urinometer & Test Jar .....	50%
93	Hypodermic Syringes (prices on application)	
95	Clinical thermometers .....	50 & 50%
	(Gross lots quoted on application)	

Terms net 30 days, 1% ten days, F. O. B., Brooklyn, N. Y.

## A. E. MOELLER CO.

261-263-265 SUMPTER STREET

BROOKLYN, N. Y.