

—Dietz on Science—
**GALILEO MADE
WORLD'S FIRST
THERMOMETER**

Instrument First Made in
1592 Functioned as
Those of Today.

BY DAVID DIETZ

Science Editor

Almost every one knows that Galileo was the first to turn a telescope upon the heavens. But probably only a very few people realize that we owe our methods of measuring heat as well as our methods of studying stars to that scientific pioneer. Galileo made the first thermometer.

The story is told by Dr. Morton Mott-Smith, former professor of physics at George Washington university, in his excellent little book, "Heat and Its Workings," published by Appleton.

When Galileo made his first thermometer, there was no barometer in existence. That instrument was invented later by Torricelli, a pupil of Galileo's.

And so, without knowing it, Galileo built an instrument which functioned primarily as a thermometer and secondarily as a barometer, and in consequence was by so much more accurate as a thermometer. But it was a beginning.

Heat Applied to Bulk

It was in 1592 that Galileo built the world's first thermometer. It was not until 1609 that he turned his first little telescope upon the stars. The first thermometer was an air thermometer. Galileo knew, from various experiments, that air expands a considerable amount when heated.

His thermometer consisted of a large glass sphere or bulb having a long narrow stem attached to it. The sphere was supported so that the stem extended below and dipped into an open dish of mercury.

Before dipping the stem into the mercury, Galileo heated the bulb slightly. This caused the air within to expand a little. The stem was then inserted into the mercury. When the bulb cooled off, the air within it contracted. This caused some of the mercury to be sucked up in the stem.

Recording Is Reversed

The thermometer now was ready for use. As the temperature rose and fell, the height of the mercury column changed. But it is interesting to notice that this thermometer functioned in just the opposite fashion to the present day one.

When the day grew hotter, the air in the bulb expanded and drove the mercury down. When cool weather came along, the mercury rose. Dr. Mott-Smith points out that if this type of thermometer had persisted, our ideas of high and low as applied to thermometers might have been just the opposite to what they are today.

Galileo had no scale on his thermometer. But they were added by subsequent experimenters.

**SLAYS GIRL ESCORT
AS LOVE IS SPURNED**

**Maine Farmhand Commits Suicide
After Killing Pal Leaving Dance.**

By United Press

MONTVILLE, Me., Oct. 3.—A jealous farmhand trapped the girl who had spurned his attentions as she rode home from a dance early today, killed her and her escort, and committed suicide.

The dead were:

Elwood Kane, 33, of Montville, the farmhand.

Phyllis Rowell, 16, of Montville.

Fred B. Jackson, 34, of Montville.

Last year, 57,544 signatures, representing seventy different nationalities were entered on the register for visitors kept at Shakespeare's birthplace at Stratford-on-Avon.

\$3 70
Round Trip
from Indianapolis
GOING
OCT. 13, 14, 20, 21
Liberal return limits
Pullman or Coaches
Pullman Fares Reduced

**LAST MONTH OF THE
WORLD'S
FAIR
• CHICAGO.**

Go from 10:30 A. M. Oct. 13 to 2:30 A. M. Oct. 15—Return by Oct. 18. Also go from 10:30 A. M. Oct. 20 to 2:30 A. M. Oct. 22—Return by Oct. 25.

OTHER WORLD'S FAIR BARGAIN TRIPS

(All fares shown are for round trip)

\$5 00
Per person for 3 or more
traveling together—Return by Oct.
15—Go in 9 days. Pullman
or Coaches—Pullman fares reduced.

\$5 50
Go any day until Oct. 29—Return in 9 days. Pullman or Coaches—Pullman fares reduced.

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INSTANT RELIEF
INDIGESTION
URINARY
DYSPEPSIA
GUARANTEED
ON SALE AT ALL
HAAG DRUG STORES**

Skyball Contest Entry Blank

Name
Address
Last Birthday
MARK X. YOUR AGE, CLASS
Junior Class 6 to 10 inclusive Intermediate Class 11 to 14 inclusive Senior Class 15 to 19 inclusive

Using Washington street as the north and south dividing line and Meridian street as the east and west dividing line. Mark X in the section in which you live.

Southeast Northeast Southwest Northwest

Hold this blank and give it to the official in charge of contest on the day of contest.

Tournaments in each section 9:00 a. m. Saturday, Oct. 14th.

**Hundreds Enter Sky Ball
Sectional Contests Here**

**List of Dealers Are Given in
Northwest Area of
City.**

Increasing interest in The Times-Eagle Sky Ball contest has made it necessary to launch an even broader program for the distribution of these balls and the little green rackets that accompany them.

The contest, scarcely a week old, has met with unprecedented response from boys and girls alike. Hundreds have entered the contest, each with a seal that defies description, and with a grim determination to win. A completely equipped bicycle or at least one of the other valuable prizes.

The facilities prospective contestants, the following is a partial list of Sky Ball dealers in the Northwest section of the city.

Furnace Hardware Company, 2064 North Illinois street; S. Muhi Drug Company, 121 North Illinois street; Koehler Pharmacy, 3000 North Meridian street; Elbein Pharmacy, 1611 North Capitol avenue; Borden Pharmacy, 1602 Boulevard Place; E. C. Phillips, 1602 Western avenue; Borchert Hardware Company, 2858 Northwestern avenue; Thirtieth and Illinois street; Hyland Pharmacy and Hardware Company, 2911 Clinton street; Grande Pharmacy, 2911 Main street; Speedway City; Kerr Pharmacy, Forty-second and Boulevard place.

Admiral Pharmacy, 2911 North Meridian street; Cox Confectionery, 2924 West Sixteenth street; Indianapolis Pharmacy and Hardware Store, 3371 West Michigan street; Russel and Noe Pharmacy, 822 West Main street; F. D. Cox Pharmacy, 725 West New York street; F. D. Cox Pharmacy, 245 Black street; Keystone Variety Store, 1010 Biddle street; C. H. Lindy Pharmacy, 2341 West Tenth street; J. F. Lucid Pharmacy, 2724 West Tenth street; F. D. Cox Pharmacy, 2388 West M. Haver Pharmacy, 371 West Twenty-third street; Alexander Hardware and Electric Shop, 973 Belleview place; 1010 Biddle street; Northwester Avenue; A. D. Borley Pharmacy, 3606 North Capitol avenue; Walker Drug Company, 2911 Main street; and A. K. Lieb's Pharmacy, Thirty-fourth street and Capitol avenue.

Additions to this list will be published in The Times at frequent intervals.

**PROFESSOR COMPOSES
SCORE OF ORATORIO**

Choice of 1,000 Voices Will Sing
Music for Methodists.

By Times Special

GREENCASTLE, Ind., Oct. 3.—One thousand voices will sing an oratorio now being written by Professor Van Deman Thompson, member of the De Pauw University school of music faculty when this composition is heard for the first time at the sesqui-centennial celebration of American Methodism in America. He has been working on the composition since last spring and does not expect to complete the orchestral score until next summer.

The vocal score will be completed by Jan. 1 under the present schedule, he announced.

Representatives at the meeting voted to petition the council at its next meeting to make Forty-sixth street boulevard width and preferential and to install automatic traffic signals at Forty-sixth street and Capitol avenue and Forty-sixth and Meridian streets and to widen Clarendon road from the university campus south to Thirty-eighth street.

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FEDERATION TO ELECT

North Side Clubs' Directors Will
Meet at Rauh Library.

Officers of the North Side Federation of Clubs, Inc., will be elected at a meeting of the board of directors at 7:30 tonight in the Rauh memorial library, 3024 North Meridian street.

Directors to serve during the coming year were named at a meeting of the club last month.

The meeting was the outgrowth of a series of accidents which have caused one death and serious injury to others, including faculty members and students.

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