ORDERS OF THE DAY.

The Mayor's Proclamation and Chief Marshal's Commands.

THE OFFICERS AND THEIR AIDS.

How Divisions Will be Arranged and Where They Will Form.

WHERE PARADE STAFFS MUST REPORT.

Features of the Street Show and the Route of the Big Procession.

Mayor Wyman, in taking official cognizance of the Semi-Centennial Celebration, comments upon the wonderful progress during the past half century in all that goes to make a city, and asks that the merchants and manufacturers will close their places of business and observe the day as a holiday. The Mayor, in his proclamation to the citizens, says:

Chief Marshal Beilstein.

WHEREAS, On Thursday, July 17, 1890, the city of Allegheny will have completed the fiftieth year of its existence as a city, and

Whereas, It is intended to celebrate the event in a fitting manner; therefore,

I, James G. Wyman, Mayor of said city, do issue this, my proclamation, and ask that on the day named all our merchants close their stores, and our manufacturers their mills and factories, in order that all our citizens may participate in the ceremonies of the day, and assist in commemorating the wonderful progress and prosperity of our city during the past 50 years.

In testimony whereof, I have hereunto set my hand and affixed the seal of said city this 13th day of July, 1890.

JAMES G. WYMAN, Mayor.

HENRY HUNNESHAGEN, Mayor's Clerk.

MARCHING ORDERS.

Chief Marshal J. F Beilstein last night assumed command of the parade and issued the following orders:

HEADQUARTERS CHIEF MARSHAL, SEMI-CENTENNIAL PARADE, July 12, 1890.

General Order No. 1.

Having been elected Chief Marshal of the Semi Centennial parade of the city of Allegheny, I hereby assume command.

The following appointments are hereby made, viz.: Lee S. Smith, Adjutant General; W. S. Huselton, M. D., Chief of Staff. They will be obeyed and respected accordingly.

The following aids have been appointed, and will serve on the staff of the Chief Marshal, and will report mounted at headquarters, City Hall, at 9:30 A. M. sharp:

The command will be composed of three divisions. The First division will be commanded by H. K. Beatty, M. D.; Frank J. Fleck, Jr., A.; Chief Marshal Alfred F. Smith, Chief of Staff, and will be composed of all military organizations, Grand Army, Veteran Legion, Sons of Veterans, United Americans, Select Knights, American Mechanics, Turners, singing societies, and all other organizations on foot that may report. No wagons or carriages will be allowed in this division. It will form on Montgomery and Sherman avenue, right resting on Federal street, west.

The second division will be commanded by David Hunter, Jr., John Glenn, Assistant Adjutant General; John C. Hastings, Chief of Staff, and will be composed of Police Department, mail carriers, invited guests, orators, ex-Mayors, Councils, heads of departments, city officials, Semi-Centennial Committee in carriages, Water Department, Street Department, old volunteer firemen, Fire Department. This will be strictly a municipal division, and will form on Arch street, Stockton avenue and Park way, right resting on Montgomery avenue. Carriages of this division will assemble at City Hall.

AN INDUSTRIAL DISPLAY.

The Third division will be commanded by George N. Lacock; W. T. Bradberry, Adjutant General; Alex. S. Cameron, Chief of Staff, and will be composed of carriages containing the Bachelors' Club, the Jewelers' Association and all other carriages not included in the Second division; also all decorated wagons, floats, business and trade displays, and such other industrial displays as may report, and will form on Montgomery avenue, Union avenue and Sandusky street, right resting on Federal street, east.

Division Commanders will establish their headquarters at the points designated in special order as early as possible on Thursday morning, July 17, reporting immediately to Chief Marshal's headquarters, City Hall, either in person or by aid.

Division Marshals will pay particular attention toward moving their commands promptly, keeping the column well closed up, permitting no breaks to occur. Chief Marshal's headquarters will be established at 9 A. M. at City Hall, Allegheny; in the saddle, 11 A. M. sharp.

Bands and escorts. The following assignments of bands are hereby made, viz.: To the Chief Marshal, the Grand Army Band; to the Marshal of the First division, the Cathedral Band; to the Marshal of the Second division, the Great Western Band; to the Marshal of the Third division, Post 162 Band. These bands will all report to Prof. Yettebart, at Chief Marshal's headquarters, not later than 10 A. M.

The Grand Army Band and the Great Western Band are hereby assigned for duty in the parks during the afternoon and evening, under the direction of the Musical Director, who will be obeyed in all things pertaining to the musical portion of the demonstrations. Carriages containing orators, invited guests, Councils, Committee on Semi-Centennial, etc., will move by way of Ohio and Sherman avenue to park entrance, opposite High School, unloading at that place.

ROUTE OF PARADE.

The command will move promptly at 11 A. M. by way of Federal street to Church, to Cedar, to Washington street, to Chestnut, to Ohio, to James, to North, to Allegheny, to Locust, to Chartiers, to Ridge, to Marion, to Ohio, to Federal, pass in review at City Hall, in the following order, viz.:

Platoon of Mounted Police.
Escort of Chief Marshal.
Grand Army Band.
Chief Marshal and staff.
First Division, Commanded by H. K. Beatty, M. D.
Second Division, Commanded by David H. Hunter, Jr.
Third Division, Commanded by George J. Lacock.

Citizens along the route are requested to decorate their places of business and residences, and at night illuminate the same by means of lanterns and colored fire.

LEE S. SMITH, Adjutant General.
W. S. HUSELTON, Chief of Staff.
J. F. BEILSTEIN, Chief Marshal.

AIDS TO CHIEF MARSHAL.

The following citizens have been chosen as aids to Chief Marshal Beilstein:

H. Darlington,
John Slagle,
H. W. Oliver,
Thomas Boyle,
R. D. Wood,
R. H. Bogg,
D. B. Oliver,
J. Ross Proctor,
O. P. Scaife,
M. F. Scaife,
W. L. Scaife,
Charles Cole,
Lou Irwin,
Wm. Irwin,
Frank Smith,
Hood Smith,
James Dewhurst,
J. K. Verner,
J. R. Reed,
Thomas McKee,
D. H. Hostetter,
John Moorhead,
C. B. Shea,
Ed Painter,
Charles Painter,
E. M. Byers,
J. B. Chambers,
D. E. Lyon,
Major Jos. Speer,
Jos. Horne,
Durbin Horne,
Colonel Wm. A. Stone,
Wm. Graham,
J. Painter, Jr.,
Gus Moeskel,
John Walsh,
H. Hofmann,
Ray Walker,
David Donaldson,
William McCandless,
H. Sellers McKee,
William Rhodes,
John Walker,
H. Buhl, Jr.,
Wilson Shiras,
George Shiras III.,
George Rudolph,
Charles Dahlinger,
M. K. Gillespie,
Henry McKnight,
Wm. M. Scaife,
L. Werthelmer,
Frank Weyman,
George Marshall,
Wilson Miller,
C. C. Baer,
Harry Patton,
William Cain,
William Gibbs,
J. A. Grier,
W. B. Rodgers,
O. McCrury,
D. F. Henry,
D. M. Watson,
W. W. Sauers,
Andrew Paffenbach,
Charles Holmes,
A. Hartje,
Ross Drum,
William Willock,
James Wallock,
Scott Ward,
A. Lawrence,
Theo. Sproul,
George Shea,
Joseph Shea,
L. Wales,
Alex. McClure,
J. Scaife,
Frank Dorhman,
William Jamison,
Dr. Simpson,
Max Klein,
T. C. Jenkins,
William B. Scaife,
James Stewart,
Frank Anshutz,
Robert Knox, Jr.,
John Seifert,
Allen Hall,
George A. Kelly,
A. M. Marshall,
E. Holdship,
Thomas Cook,
James Scully,
James Armstrong,
Henry Burt,
Frim Graham,
F. Richardson,
F. Alberte,
Jacob Klee,
John Fisher,
Elliott Rogers,
E. L. Lewis,
Joseph May,
Charles Brown,
James Pearson,
Perry Charles,
Dr. E. Huselton,
Dr. Hechelman,
Dr. Phillips,
Dr. McCready,
E. Groetzinger,
J. A. Davidson,
Joseph Kain,
James McFarland,
Charles Miegart,
Charles Gerwig,
Humphrey Miller,
E. McClure, Jr.
Austin Clark.
Dr. J. H. Williams,
William Kennedy,
D. Thompson,
B. F. Jennings,
James Frient,
Frank Hoffstott,
J. D. Lyon,
William Lawrence,
F. Nicola,
Moses Atwood,
Frank Moorhead,
G. Bvaitt,
Horton Singer,
U. Baird,
Clem Reymer,
John Smithley,
John Gilleland,
Theo. Hostetter,
J. R. Wolfe,
Blair Painter,
William Paxton,
George McMurtrie,
Chester Albree,
Bert Follansbee,
Park Painter,
H. Rea.

FIRST DIVISION ORDERS.

H. K. Beatty, M. D., Marshal of the First division, directs his staff to report mounted at division headquarters at 9:30 A. M. July 17. He appoints Frank J. Fleck, Assistant Adjutant General; Alfred S. Smith, Chief of Staff, and the following aids:

Jacob E. Bame,
C. P. Lockhart,
Charles H. Dixon,
A. C. Anderson,
A. M. Gunder,
A. Ulrich,
R. A. Rogers,
D. E. Nicholson,
James F. Terry,
John J. Davis,
H. C. Kerner,
Thomas W. Irvin,
John Mandel,
Dr. John Kirker,
L. P. Stern,
R. S. Robb,
Mack Dailey,
David Edwards,
Elmer Miller,
E. L. Bear,
Dr. C. Reddick,
Frank Kline,
Robert Munroe,
Clarence Goldman,
J. R. Horner,
J. G. Smith,
W. G. Mierwick,
James Johnston,
M. Petri,
J. M. Allen,
E. E. Custard,
T. R. Morris,
Charles P. Sorg,
E. A. Knox,
G. F. Schrader,
S. F. Barnhart,
W. P. Armstrong,
W. B. Dresken,
W. R. Denny,
C. A. Hutchinson,
R. D. Barker,
G. K. Hiber,
General Wm. Blakeley,
George J. Gorman,
George E. Foster,
Stanton Marquis,
J. C. Kimberlin,
Joseph S. Reddy,
N. R. Carlysle,
Samuel McMasters,
James Lowrie,
Alex A. Patterson,
George Smith,
John Bush,
T. L. Clark,
John Kress,
Syla Bierman,
J. J. Hamilton,
George F. Heckel,
Dr. W. W. Wolf,
William J. Rothrum,
John Stulen,
Thomas Ward,
W. W. Beatty,
James Newell,
Richard Sharp,
C. Steffen, Jr.,
James D. Johnson.

SECOND DIVISION ORDERS.

Marshal David Hunter, Jr., of the Second division, requires his staff to be on hand promptly at 9:30 A. M., and appoints John Glenn Assistant Adjutant General, John G. Hastings Chief of Staff, and the following aids:

James Brown,
Charles Brown,
C. F. Ehlers,
Francis Rust,
Lewis Carr,
James Gray,
Davis Hilamus,
Charles S. Brown,
James Woodburn,
A. G. Duncan,
Dr. G. A. Muller,
William Pitcairn,
Major John Ogden,
William M. Young,
James A. Young,
Frank Anshutz,
William McCullough,
Thos. McHendry,
James Wherry,
C. G. Donnell,
Jas. B. Haines, Jr.,
John Omert,
H. K. Lacock,
E. K. Morrison,
W. K. Church,
H. A. Spangler,
W. M. Kennedy,
Jas. B. Youngson,
John B. Berlin,
J. F. Leggett,
Grant Drum,
T. W. Maguiness,
Z. T. Cruikshank,
George Cruikshank,
Frank Cruikshank,
Wm. Best,
R. W. McLaughlin,
J. J. Thompson,
A. J. Armstrong,
Wm. J. Murphy,
Harry P. Fears,
Louis Gundlach,
Robert Knox, Jr.,
Thomas McClure,
John J. Haley,
Harry W. Dunlap,
Robert McDonald,
Dr. C. H. Voigt,
James F. Robb,
J. M. Maloney,
R. D. Ackley,
George Richards,
Peter Bolster,
Frank Robinson,
John Lippert,
David Hastings,
William Eichenlaub,
William Greenawalt,
David Macferron,
Robert Macferron,
R. J. Baxter,
William E. Gurvis,
C. J. Johnston,
F. Waldschmidt,
Joseph Knollinger,
William Weldon,
J. F. Bailey,
Henry Brehm,
Edward Merriman,
William F. Meese,
Henry Meese,
James Bradley,
E. C. Gerwig,
C. L. Dittman,
John Askey,
James Benney,
W. P. Hunker,
Robert Dilworth,
W. N. White,
John R. Brown,
George Gerwig,
Robert Jones,
John Hunter,
Harry Dillon,
William Hamilton,
H. Marcellus,
A. Barkley,
George B. Catterall,
James Sherry,
T. C. Johnston,
John Milby,
Daniel Davis,
W. J. Thubron,
C. A. Klages,
Christ Schrader,
S. S. Woodburn,
Robert Swan,
J. S. Bell,
Dr. G. A. Muller,
George Junker,
Robert Dixon,
R. W. McConnell,
Wm. A. Hadfield,
John Rea,
A. W. McD. Taylor,
Fred Andriessen,
August Danner,
Harry Algeo,
James B. Sike,
Geo. Wiggins,
T. C. Jenkins,
W. H. Boggs,
H. W. Buhl,
Joseph Maginnis,
Daniel Nuttall,
Richard Nuttall,
A. J. Lawrence,
W. A. Uarr,
George Hodgdon,
Samuel B. Oluley,
George B. Hill,
W. A. Austin,
R. M. Kerr,
Dr. Sam'l McNaugher,
Harry Swindell,
Dr. J. B. Trimble,
John M. Hastings,
S. F. Cole,
J. P. Gregg,
W. L. Coyle,
W. H. Hamilton,
Joseph Hastings,
E. A. Graff,
James Howard,
J. G. Bennett,
B. W. McLain,
J. W. Gibson,
John Douglass,
D. S. Thompson.
Samuel Strassburger,
Henry Sutmeyer,
Dr. Walter Dye,
John S. Nichol,
D. M. Alston,
William Witherow,
R. W. Elton,
R. W. Cartwright,
Fred J. Moore,
Thomas Ward,
A. J. Lacock,
Lew Anshutz,
John R. Brown,
Walter Hay,
Charles L. Netting,
Frank Thompson,
Wm. D. Thompson,
T. W. Lacock,
Wm. McKinney,
John M. Lyon,
A. K. Johnson,
Dr. T. L. Hazzard,
Jas. McFarland,
Hon. R. T. Pearson,
Wm. M. Gibbs,
Jos. T. Nevin,
T. S. Fullwood,
J. B. Armitage,
C. W. Cadwalder,
Harry Baird,
Herman Deumler,
Captain O. F. Melvin,
E. G. Walker,
W. H. Staup,
John K. Lewis,
George H. Hollenbach,
Charles E. Gilchrist,
Thomas B. Barnes,
James H. Stewart,
A. G. Williams,
T. W. Lacock,
J. C. Bartlett,
John H. Stevenson,
Harry W. Rowley,
A. K. Scandrett.

THIRD DIVISION ORDERS.

George N. Lacock, Marshal of the Third division, also asks for promptness on the part of his staff, which is as follows: W. T. Bradberry, Assistant Adjutant General; Alex. S. Cameron, Chief of Staff; aids:

John Finnigan,
Wm. Pennington,
Fred Carnahan,
John Hamilton,
James Smith,
Thomas West,
John Parkhill,
Samuel McCartney,
John Connor,
John Tarpey,
Clem Colp,
George Kramer,
M. Kelly,
Thomas McBride,
Fleming Jamison,
Joseph D. Mahoney,
David Winters,
John G. Hansemeyer,
John S. Guilett,
Charles Horne,
E. S. McCourt,
John Steele Austin,
Thomas R. Pusey,
George W. Pusey,
W. T. Lewis,
A. G. Barnes,
Joseph Bienberger,
Daniel G. Brose,
Prof. S. C. Farrar,
Frank S. Leggett,
J. L. Kennedy,
Dr. J. B. Ritchie,
W. R. Uullers,
C. Steffen, Jr.,
William Bridgett,
R. L. Orr,
George W. Ott,
George Addy,
Capt. James Munden,
R. G. Dosch,
Louis Brant,
Joseph Uttinger,
H. J. Westerman,
Dr. S. S. Woodburn,
A. G. Duncan,
Dr. G. A. Muller,
William Pitcairn,
Major John Ogden,
William M. Young,
James A. Young,
Frank Anshutz,
William McCullough,
Thos. McHendry,
James Wherry,
C. G. Donnell,
Jas. B. Haines, Jr.,
John Omert,
H. K. Lacock,
E. K. Morrison,
W. K. Church,
H. A. Spangler,
W. M. Kennedy,
Jas. B. Youngson,
John B. Berlin,
J. F. Leggett,
Grant Drum,
T. W. Maguiness,
Z. T. Cruikshank,
George Cruikshank,
Frank Cruikshank,
Wm. Best,
R. W. McLaughlin,
J. J. Thompson,
A. J. Armstrong,
Wm. J. Murphy,
Harry P. Fears,
Louis Gundlach,
Robert Knox, Jr.,
Thomas McClure,
John J. Haley,
Harry W. Dunlap,
Robert McDonald,
Dr. C. H. Voigt,
James F. Robb,
Robert Dixon,
R. W. McConnell,
Wm. A. Hadfield,
John Rea,
A. W. McD. Taylor,
Fred Andriessen,
August Danner,
Harry Algeo,
James B. Sike,
Geo. Wiggins,
T. C. Jenkins,
W. H. Boggs,
H. W. Buhl,
Joseph Maginnis,
Daniel Nuttall,
Richard Nuttall,
A. J. Lawrence,
W. A. Uarr,
George Hodgdon,
Samuel B. Oluley,
George B. Hill,
W. A. Austin,
R. M. Kerr,
Dr. Sam'l McNaugher,
Harry Swindell,
Dr. J. B. Trimble,
John M. Hastings,
S. F. Cole,
J. P. Gregg,
W. L. Coyle,
W. H. Hamilton,
Joseph Hastings,
E. A. Graff,
James Howard,
J. G. Bennett,
B. W. McLain,
J. W. Gibson,
John Douglass,
D. S. Thompson.
Samuel Strassburger,
Henry Sutmeyer,
Dr. Walter Dye,
John S. Nichol,
D. M. Alston,
William Witherow,
R. W. Elton,
R. W. Cartwright,
Fred J. Moore,
Thomas Ward,
A. J. Lacock,
Lew Anshutz,
John R. Brown,
Walter Hay,
Charles L. Netting,
Frank Thompson,
Wm. D. Thompson,
T. W. Lacock,
Wm. McKinney,
John M. Lyon,
A. K. Johnson,
Dr. T. L. Hazzard,
Jas. McFarland,
Hon. R. T. Pearson,
Wm. M. Gibbs,
Jos. T. Nevin,
T. S. Fullwood,
J. B. Armitage,
C. W. Cadwalder,
Harry Baird,
Herman Deumler,
Captain O. F. Melvin,
E. G. Walker,
W. H. Staup,
John K. Lewis,
George H. Hollenbach,
Charles E. Gilchrist,
Thomas B. Barnes,
James H. Stewart,
A. G. Williams,
T. W. Lacock,
J. C. Bartlett,
John H. Stevenson,
Harry W. Rowley,
A. K. Scandrett.

PRIDE OF ALLEGHENY

Interesting Description of the Celebrated Observatory There.

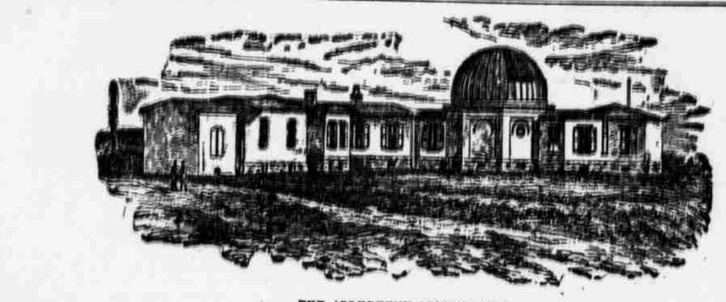
A MONUMENT TO LIBERAL MEN.

How It Introduced the System of Time Distribution

WHICH IS NOW IN GENERAL USE.

Its Correct Clock Beats Are Now Heard in Far Off Places.

The Allegheny Observatory was founded in 1860 by the subscriptions of citizens, induced to promote the undertaking by the exertions of Mr. L. Bradley, to whom the inception of public interest in the plan was due. A building was erected, and a large equatorial telescope was procured, when pecuniary difficulties arose to hinder immediate farther progress. In 1866 the donation of a large sum by the late William Thaw, of Pittsburg, with aid from others, freed the Observatory from debt, and furnished means for a partial endowment, whose income should supply its more urgent future current needs. At the same time the original contributors were induced, at the solicitation of Dr. G. Woods, to convey their title in the property to the trustees of the Western University of Pennsylvania, conditionally upon this property being restricted to the uses of the observatory, and on the appointment and maintenance of an



THE ALLEGHENY OBSERVATORY.

observer. In consequence of this change, the trustees, in 1867, invited S. P. Langley to assume the office of director; but it was not until 1869 that the equipment was in such a state of forwardness as to permit systematic observation, such as has since been uninterruptedly maintained.

The Observatory is situated on the high ground just north of the most populous part of the city of Allegheny, about 450 feet above the Ohio river and 1,150 feet above sea level. The original building was 72 feet in length and consisted of a principal story and basement, the facade looking toward the south, and being divided into a central dome with two wings. Additions have been made from time to time, and the newer part, which adjoins the eastern wing, extends in a northerly direction 88 feet. The material is brick, excepting the "dark room," or physical laboratory, for investigations in light and heat, which is of wood. The revolving dome (having an internal diameter of 20 feet) is of wood and iron.

FIRST-CLASS EQUIPMENTS.

Beneath the dome is the principal instrument, the equatorial, of 13 inches aperture (with an excellent objective by Clarke, the mounting being by Fitz, of New York), with hour circle, reading to seconds of time, declination circle reading to ten seconds of arc, and clock movement controlled by Bond's system. The instrument has also a position filar micrometer, polarizing solar eye piece, star spectroscope with two prisms of Huggins' pattern, a large and a small grating spectroscope, and accessories for attaching a reflecting telescope (employing no lenses whatever) for special heat researches —for attaching an optically plane mirror to the polar axis (thus forming a Fahrenheit heliostat), and for converting the inverted telescope into a great equatorially mounted spectroscope.

In the western wing is the transit-room, containing an instrument of four-inch aperture by Simms, a staudard barometer by Green, the sidereal clock by Frodsham, and the principal mean-time clock by Howard. Both clocks, as well as the observer at the meridian instrument, or the equatorial, can be placed in electric connection with the rest of the building, and also with the lines of telegraph connecting the Observatory with the city, so that beats of the clock can at a few moments' notice be transmitted to any part of the country—those of the sidereal clock for the determination of longitude, and those of the mean-time clock for supplying time to near or distant cities and to railroads.

In the small hall connecting this room with the dome is a stand for the galvanometer when this is used in connection with thermo-electric apparatus attached to the equatorial in differential measurements of the heat from different parts of the sun. From this hall access is also had to the self-registering and other thermometers. In the east wing is the room containing the chronograph, various pieces of electric apparatus, a third clock, and chronometers. It is occupied by the assistant in charge of the time service.

THE SUN STUDIED.

The north wing contains the private study of the director, the library (which has also been used as a workroom and study for one of the assistants), and, in an extension (constructed in 1881, at the cost of Mr. William Thaw, with the exception of $500 contributed by Dr. C. G. Hussy), a sleeping room, a small workshop, an alcove fitted up with a cabinet of shelves and drawers of instruments, and the "dark room," or physical laboratory. The latter is provided with two stone tables, on which are mounted galvanometers of great delicacy, and three stone piers in line with each other, on which are placed various instruments for researches in solar physics, which do not form part of the equipment proper of the Observatory. The principal of these, the spectrobolometer (constructed from designs of the director for the study of invisible radiations) stands in the center of the room, and receives sunlight through an aperture in the north wall from the mirror of a large Foucault siderostat.

This last important instrument is placed upon a pier of masonry outside the building, but connected with it by a platform, and protected from the weather by a "rolling house." It carries a 12-inch optically plane silvered glass mirror, by Clarke, and was made by Hilger, of London. It is in constant use.

The equatorial is mainly used in the study of the sun's surface, of which daily drawings on a scale of eight inches to the solar diameter have been made for several years. Beside these drawings, others on a much larger scale have been made, on favorable occasions, by the aid of the polarizing eye-piece. The larger part have never been published, but some of them have furnished valuable information in regard to the minute structure of the solar photosphere. Researches upon the relative thermal, luminous and actinic intensities of different parts of the sun's disk, have been carried on with thermopiles and special optical devices; and these are now being greatly extended by the use of the new bolometric and spectroscopic apparatus.

TIME DISTRIBUTION.

A mention of the Observatory's work would be incomplete without some account of its system of time-distribution introduced by Prof. Langley in 1869. Previous to that date, time had been sent in occasional instances from American observatories for public use, but in a temporary or casual manner. The Allegheny system, inaugurated in that year, is believed to be the parent of the present ones used in this country, in that it was, so far as is known, the first regular and systematic system of time-distribution to railroads and cities adopting it as an official standard. Two especially constructed lines of telegraph connect with the municipal offices in Pittsburg and Allegheny, with the telegraph lines of the Western Union Telegraph Company, and with private lines of the railroads.

A turret clock in the City Hall of Pittsburg has been provided with electrical mechanism, which enables it to be regulated from the Observatory, so that its movement may be made synchronous with that of the principal mean time standard there, which is itself corrected by nightly observations.

The electric mechanism of the distant turret clock causes a stroke upon a heavy bell above the summit of the tower to be given with exact precision at the first second of every third hour, so that it is audible throughout the city. The mechanism of the same turret clock is arranged so that the pendulums of clocks in any distant police, fire alarm, or other municipal offices, can be controlled by it and compelled to move synchronously with its own; and at the same time it can, if desired, automatically report its own time upon the electric recording apparatus at the Observatory. The automatic signals of the Observatory clock are rendered audible in these offices, and in the still more distant stations along the lines of the railways, by simple pieces of telegraphic apparatus known as "sounders," which are placed beside their own regulating clocks, and enable them to give these latter an astronomical precision.

THE CLOCK CIRCUIT.

The private lines of the railroads carry these beats over the country from New York upon the east to Chicago upon the west, and from Erie upon the northern lakes to Baltimore in the south. Over 40 associated railroad companies are thus not only in permanent electric connection with the Observatory, but, their managers having adopted its time as the official standard, their employes are instructed to make regular comparisons with it; and for this purpose, during a certain time every day, the ordinary transmission of time ceases while the wires are engaged in transmitting the beats of the Observatory clock.

To enumerate all the different railroads thus adopting the observatory time would be too long; but to give an idea of the early extent and use which has been made of it, it may be mentioned that in 1872 these were grouped into three systems—the Southern, including originally seven railroad companies, and extending 1,150 miles; the Eastern, including 17 associated companies, 2,000 miles; and the Northern, including 18 companies, 1,563 miles. This aggregate of 4,713 English miles did not even at that time represent the whole use of the observatory by railroad companies, since only those which have officially instructed their employes to adopt its time as their standard were included in this estimate.

Over the network of railroad lines uniting the Atlantic, through the Middle States, with the Western lakes, all trains are moved, and all business carried on, by time primarily derived from a single clock, whose beats, by the repeating instruments of the telegraph lines, are virtually made audible at least once a day over a considerable part of the country. The advantages of so simple and accessible means of regulating the traffic through a large portion of the continent, are obvious; and as it is not only of important advantage in other respects to the companies employing it, but by diminishing the chances of accident in traveling to contribute largely to the public safety, the Observatory has seen with pleasure the use made of it in this interesting application of the processes of an exact science to the general welfare, the more as it is in no way incompatible with the steady pursuit of other and purely scientific duties.

OTHERS ADOPT THE SYSTEM.

For the benefit of any future writer of the history of the subject, it may be stated, that in 1870 the Observatory had already in extended operation the system of time distribution above described; that about 1873 the director at Cambridge, after conference with the writer (Prof. Langley, 1884), introduced substantially the same provisions for connecting Harvard College Observatory with the New England roads; and that about the same time the Washington Observatory, which had previously sent signals in a limited and desultory manner, commenced to do so in emulation of the new system. More recently, observatories all over the country have introduced like connections, in many instances directly seeking information as to the system first introduced here.

While ordinary observations of precision are not neglected, the present director, considering the advantage of giving particular attention to some one portion of astronomical science, has aimed to make the Observatory principally useful in physical astronomy, and particularly in solar researches. To this fruitful field of labor its work is likely to be given chiefly, in the future as in the past; but it is growing increasingly difficult to carry on such investigations in a site now more than half ringed about with manufactories, and the removal of the Observatory to a purer air will soon become a necessity. Already, in 1881, the prosecution of the most important research became impossible from this cause; and a special expedition was undertaken from the Observatory to the summit of Mount Whitney in the Sierra Nevada, to complete it. The principal means for the instrumental outfit were furnished by the late Mr. William Thaw, of Pittsburg; but very essential aid in transportation was obtained from the War Department through General W. B. Hazen, chief signal officer of the United States army, under whose official direction it proceeded in the writer's charge. A full account of the means and results of this expedition will appear this year (1884), in a volume printed at the Government press.

PROF. LANGLEY'S OBSERVATIONS.

The above article was penned by Prof. Langley in 1884. In concluding it he says:

It will appear from all that has preceded, that, in the 15 years since the first equipment, the Observatory has not been inactive; and it may perhaps be felt that the results it has reached, and the work it has accomplished, have been such as the citizens of the great industrial centers in which it is placed have cause to regard as not discreditable to them.

I must recall in this connection the regrettable fact, that, in these wealthy cities, there are not only no museums of art, no libraries of reference, no collections of scientific material, but in general, none of those aids to the investigator which are to be found in so many younger and smaller places; so that an observatory (which lives among such things as its natural medium, and depends upon their association) has here to furnish out of its own means almost everything outside of its actual apparatus that the ordinary resources of American civilization would provide for it in any large American city but Pittsburg.

This Observatory is an exotic in this community; and that it has been maintained at all during the time I have mentioned, might be, perhaps, supposed to be due to the fact that it represents the sole local channel for contribution to science, in return for those practical results of science on which the prosperity of an industrial community is founded.

SHOULD BE ENCOURAGED.

But during these 15 years it should be better known than it is, not only that its existence has been a constant struggle with poverty (its income has at no time till within the past year reached one-fifth that of other American observatories whose reputation abroad is similar) but that this long struggle, during which it has been forced to earn the means to carry on its researches has never brought it (always with exceptions already gratefully noted) the contribution of a single dollar from an individual in the community in which it exists. It may perhaps be said that this fact is not publicly known; and that it need only be known to be a fact no longer.

I could wish, then, to see better evidence of the community's liberality in the future toward this Observatory, for the community will continue, I hope, to have cause to think it a subject of just local pride; and I can hardly be wrong in speaking with this frankness to respected citizens of Pittsburg and Allegheny, who are interested, not only in its past, but in its future.

Since the above was written Prof. Langley has been awarded the highest astronomical gift at the disposal of the United States Government. Prof. Very, who ably assisted him during his labors in Allegheny, now ably directs this celebrated Observatory.

The library of the Observatory now contains about 1,500 volumes; but this is still very insufficient, as this number must take the place, to this Observatory, of all the great public libraries, belonging to cities elsewhere, to which other observatories have access.

A PIONEER PLANT.

The First Iron Rolling Mill Erected in the City of Allegheny.

The Juniata Rolling Mill was built on the lot extending from Robinson street along the west side of Darragh street to the Allegheny river, at the former outlet of the Pennsylvania Canal, by Sylvanus Lothrop, James Anderson and Henry Blake in the years 1826 and 1827. Mr. Blake sold his interest to Captain William Stewart and removed to Greenup county, Ky., having there purchased two furnaces and a forge from the Messrs. Shreves. Messrs. Lothrop, Anderson and Stewart sold out their interest in 1834 to John Bissell, William Morrison and Edward W. Stephens.

The mill, having been constructed for the exclusive use of Juniata blooms, was extended by the latter firm to the manufacture of iron by the puddling and boiling process, and was the first boiling furnace erected in Allegheny county. Here, too, was also erected the first coffee mill squeezer, under the personal superintendence of the patentee, Mr. Burden, of New York.

The manufacture of iron, nails and steel of the lowest grade, was successfully carried on by the latter firm and their successors, until the year 1859, when the site becoming too limited for the growing demands of the trade, and the war of the Rebellion threatening in the near future, it was deemed advisable to dismantle the works and wind up the business. The machinery was sold to Messrs. Reis, Brown, Berger and James Ward and was removed to Niles, O.

AN OLD DEED

For Part of the Ground on Which Allegheny Now Stands.

In 1772 the Indians were induced to give up many of their possessions in this part of Pennsylvania. They deeded to a white man part of the ground on which Allegheny now stands. A portion of the deed which he got is recorded in the Court House at Bedford under date of September 19, 1772. It is as follows:

A GRANT.

"Now therefore that we under or within bounds subscribers who have hereunto caused our names to be set and have put our marks, the first of us assigning be one of the chiefs and the other two deputys of the said Six Nations, do give and grant to the said Garret Pendergrass, his heirs and trustees forever, our full leave and liberty of us and for and in behalf of the said Six Nations to settle on a tract of land on the north side of the Aliganna river opposate to Fort Pitt, to joyn the said river on the one side and to extend one mile and a half from the landing on the north side of the said Aliganis river opposite to Fort Pitt, in form of a semi circle from said landing, hereby granting to him and his heirs, trustees, and assigns full liberty to build houses, make improvements and cultivate the said tract of land or any part thereof, and that the said Pendergrass may the more quietly enjoy the said land and any benefit that him, his heirs or assigns shall make or can make, thereby we do for ourselves and in behalf of said Six Nations discharge all people whatsoever from molesting or disturbing said Pendergrass, his heirs, trustees or assigns in the possession on quiet enjoyment of the said land or any part thereof; and we do by these presents firmly engage and promise to answer all objections that any tribe or tribes may have to the making of the above settlement.

In witness whereof we have caused our names hereunto to be subscribed, and have hereunto set our marks in the month of February, in the year of our Lord One Thousand Seven Hundred and Seventy. Signed—Anuquit Enishshera, or Captn. Henry Mountare; B. M. Counsnracheeat, or the White Mingo. Signed and agreed to before James Elliott, Garrets Pendergrass.

Bedford, SS.—Recorded 19th Sept., 1772.
A. ST. CLAIR, Recorder.

CASPER REEL'S HISTORY.

He was the First White Child Born in Ross Township.

Casper Reel came to Allegheny county in 1783 and in 1794 crossed the Allegheny river. He took up a tract of land in Ross township where he lived till he died. Casper Reel, Jr., claims to be the first white child born in Ross township. He still lives on the tract where he was born. The Reel Brothers, of Allegheny, are sons of Conrad Reel, a brother to Casper Reel, Jr. Conrad Reel established a carding mill in Perrysville in 1824, coming to Allegheny in 1841 and occupying the second floor of Sample's old woolen mill on West Diamond street, which was afterward Eichbaum & Gardner's oil mill. The Reels moved from Sample's mill to a house belonging to T. A. Hilliers, gilder and frame maker on North Canal street, finally purchasing the property, where they have been anchored almost a half century.

The building on right, in a sketch elsewhere, is the rear of the Methodist Episcopal Church, built in 1828 and known as the "pew church," better known as the South Common Methodist Church. It was torn down in 1886, the congregation moving to a new church on Buena Vista street.

Whisky in Hot Weather.

Milwaukee Sentinel.]

A doctor writes to this paper to warn persons against drinking whisky in hot weather, as it only makes them warmer. This recalls the answer of a drinker to that same advice. "When I get full of liquor," he said, "I don't care a continental how hot I am."

COTTON FACTORY RIOTS.

An Early Labor Difficulty in Allegheny—The Girls Struck on July 31, 1848, and Assaulted Their Overseers—Exciting Scenes.

After the passage of the 10-hour law, the cotton factories closed, the owners asserting there was no money in the business and that they could not successfully compete with Eastern factories running 13 hours. The girls for some time were idle, and the wolf at the door decided many of them to go back to work on the old time, thinking there would be no opposition in their doing so. But they were soon undeceived, many of those who had agreed with them changing their minds, and when the Penn mills started, a crowd, mostly girls, surrounded the entrance to the mill, demanding the discharge of those at work. When their demand was refused, they attacked the building, forcing their way inside and driving the employes out, beside breaking some of the machinery. The girls captured Mr. Kennedy, one of the owners, and the crowd cried, "Drown him! drown him!" They were hurrying him down the river bank when he was rescued.

The infuriated girls then formed in procession, marching from factory to factory. The police were powerless. The sheriff (Forsythe) could do nothing. Mr. Arbuckle in attempting to escape was caught at the factory gate, and before he could get inside the building was covered with mud. Mud was the weapon of the girls, and there was plenty of it.

At the Anchor Mills the Superintendent, Wm. Blackstock, one of the owners, attempted to make a speech to the girls, beginning with the remark: "Girls, you should be ashamed—" when a handful of mud, well aimed, struck him in the mouth, and he retired.

The girls held a meeting, and arranged to have a parade on the Monday following. They marched in procession with bands of music and banners—some of the banners carried by young fellows (old now) who would not care to have their names appear in that connection now. The girls marched in good order, and were enthusiastically cheered at points on the line of march, which led down through the First ward to the bar of Smoky Island, where they listened to speeches.

A leading Pittsburg editor advised the girls to fight manfully for their rights. An apothecary, in closing his harangue, exclaimed with a loud voice: "If you want a man—" when he was interrupted by some of the mischievous girls with cries, "Hear! hear!" when he concluded amid much laughter, "to lead you call on ——," repeating his name.

A HIGH OLD TIME.

The Riot at the Temperance Ark, in Allegheny, May 16, 1845.

Frank Johnston and his celebrated brass band, having performed successfully for several evenings before a Pittsburg audience, were invited by some of the leading "Washingtonians" of Allegheny to give a series of concerts in the "Ark." With their accustomed generosity, they readily complied. These concerts were to inure to the benefit of the temperance cause. On Tuesday evening they gave their first concert; and on this occasion a large crowd of men and boys gathered about the doors and windows, and by their riotous conduct did all in their power to mar the entertainment of the evening, and convert the "harmony of sweet sounds" into terrible discords. Notwithstanding these outside demonstrations, the music went on, failing, however, by its soothing influence to calm the savages without.

Although the authorities did everything in their power to suppress the tumult, yet the ringleaders of the atrocious outrage upon these peaceful and unoffending colored citizens were permitted to escape the penalty of a broken law.

After the close of the entertainment, and while the members of the band were on their way to their lodging, they were set upon by the mob and ruthlessly assailed with stones, missiles as the assailants could lay their hands upon, together with rotten eggs previously provided for the occasion. Frank Joh