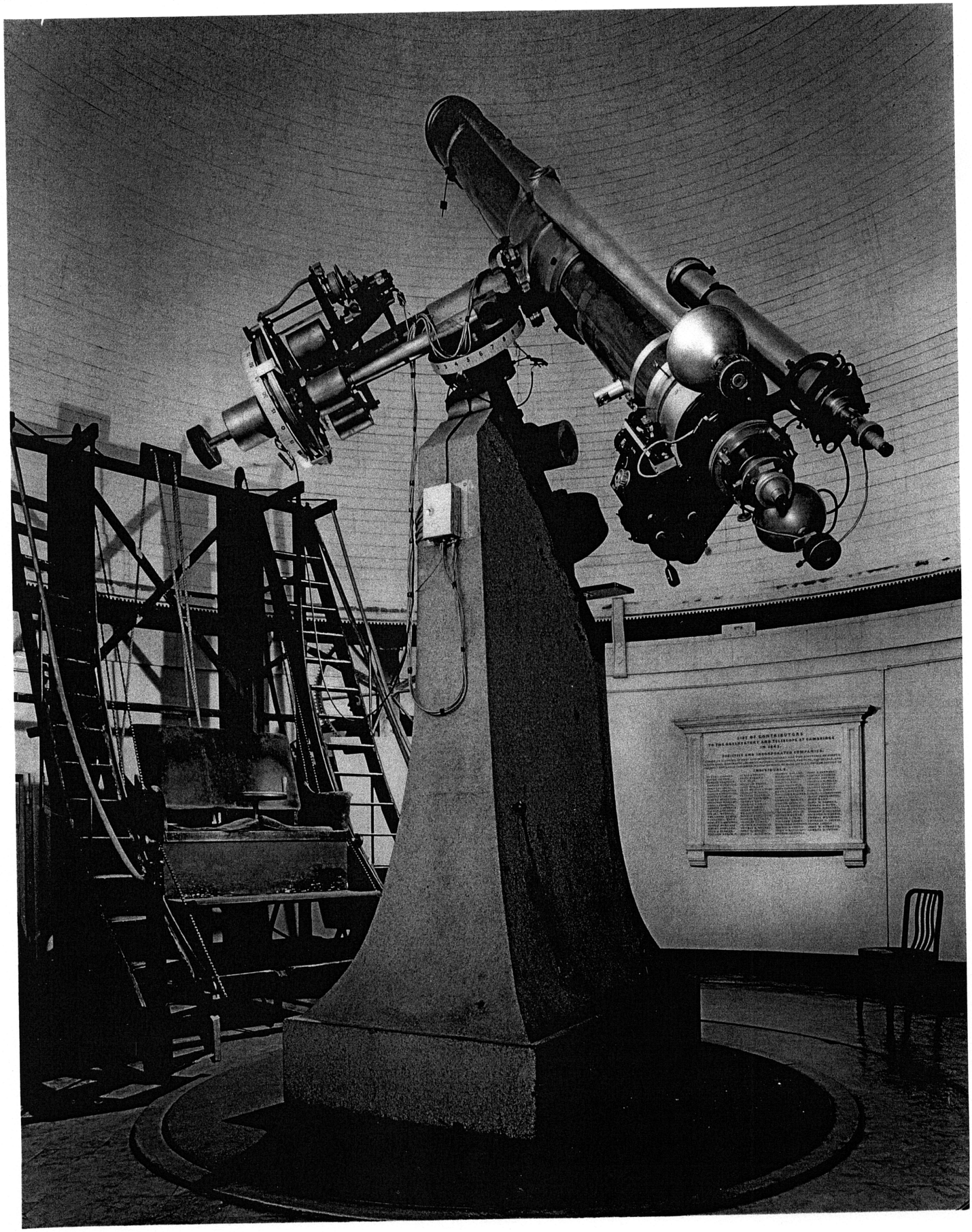
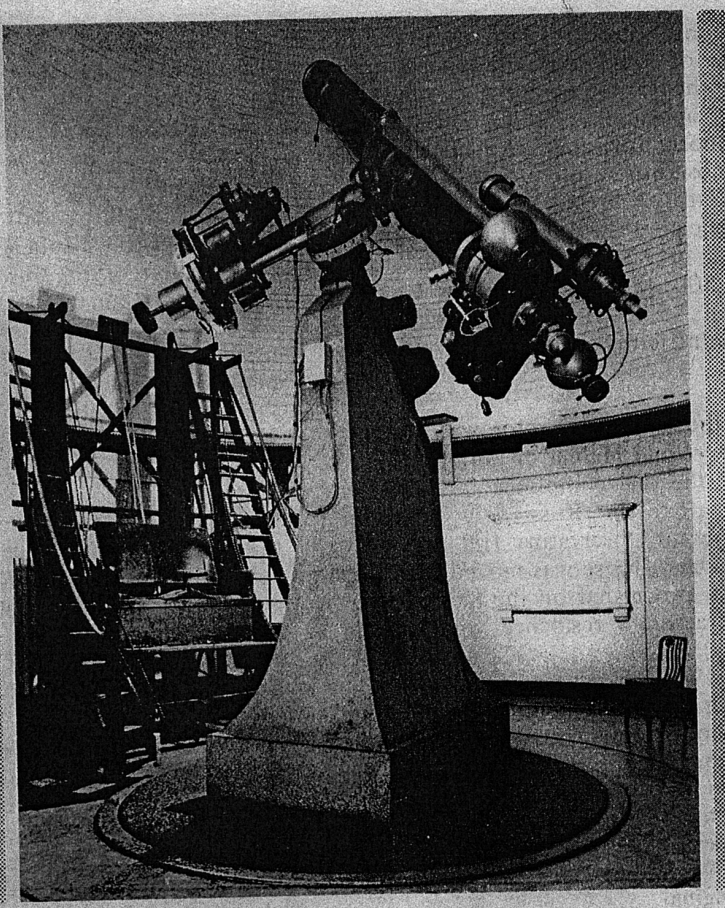

LIST OF CONTRIBUTORS

The Great Refractor of the Harvard College Observatory



This 15-inch telescope—known as The Great Refractor—was installed here in 1847. For 20 years it was the largest telescope in the United States, the most significant American instrument, and equal to the finest in the world. It was the nucleus around which the Harvard College Observatory developed.

Interest in astronomy at Harvard had dated back to the seventeenth century. But not until 1815 did the Harvard Corporation vote to form a committee "to consider upon the subject of an observatory." This was probably the first corporate act passed in the United States toward the establishment of an observatory. The information returned by the committee revealed that the cost of construction and operation would far exceed any estimates, and plans were suspended. Revivals of the idea in 1822 and 1823, the latter by John Quincy Adams, met similar fates.

Finally in 1839 the Harvard Corporation voted to appoint Mr. William Cranch Bond, a prominent Boston clockmaker, as Astronomical Observer to the University (at no salary), and to arrange the transfer of his personal observing equipment to Dana House, which then stood on the present site of the Lamont Library in Harvard Yard. The instruments were installed that fall, and additional magnetic and meteorological equipment, barometers and clocks were added during the next few years.

The observatory was by no means a "first" for Harvard. As a matter of fact, the earliest known permanently fixed American telescope was installed in 1828 at Yale; it was a 5-inch refractor on an altazimuth mount set up in a church steeple. In 1836 a modest observatory opened at Williams, featuring an equatorially mounted refractor in a revolving dome. Several other college observatories followed in quick succession.

Astronomical observations at Dana House were limited by lack of time and equipment–until March of 1843 when a comet "of surpassing size and splendor" appeared. Public interest in astronomy was enormously aroused, sufficiently to complete the subscription of funds for a truly first-class observatory. Preserved on a marble plaque in the dome are the names of the 94 donors who gave a total of $25,730. Their gifts ranged from $10 to $5,500, the latter from David Sears, who had pledged $5,000 with the proviso that others would contribute $20,000 toward the project.

The lens for the Great Refractor was ordered that year from Merz and Mahler of Munich; it was to be a twin of the one completed in 1839 for Poulkovo Observatory in Russia. A site was purchased, the present Observatory Hill, to which equipment from Dana House was moved in 1844, while construction proceeded on the Sears Tower to house the refractor, a residence, and various other buildings.

The granite pier rises 43 feet to the observing floor from its 22-foot-diameter base 26 feet below ground. It is topped by an 11-foot-high, 11-ton granite block that carries the telescope mount. Originally doors on three sides of the dome led to small iron balconies on which portable telescopes could be set up. Only the north balcony remains and probably is original.

The 30-foot dome, weighing approximately 14 tons, is of frame construction reputedly built by a whaling shipwright; it is sheathed in copper. The bearings on which the dome turned, eight 8-inch iron spheres, were replaced in the early 1940's by a more modern support system. One of the "cannon balls," flattened from wear, is on exhibit in the dome; the rest were donated for scrap metal during World War II.

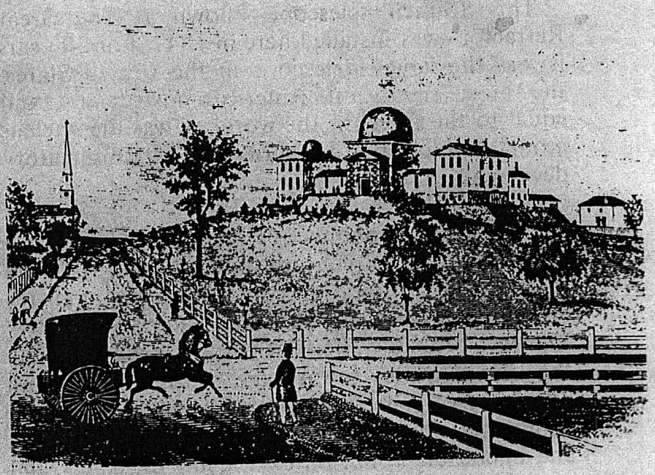
The wooden tube, veneered with mahogany, is some 20 feet long, tapering from about 16 inches at the objective end to 12 inches at the tailpiece.

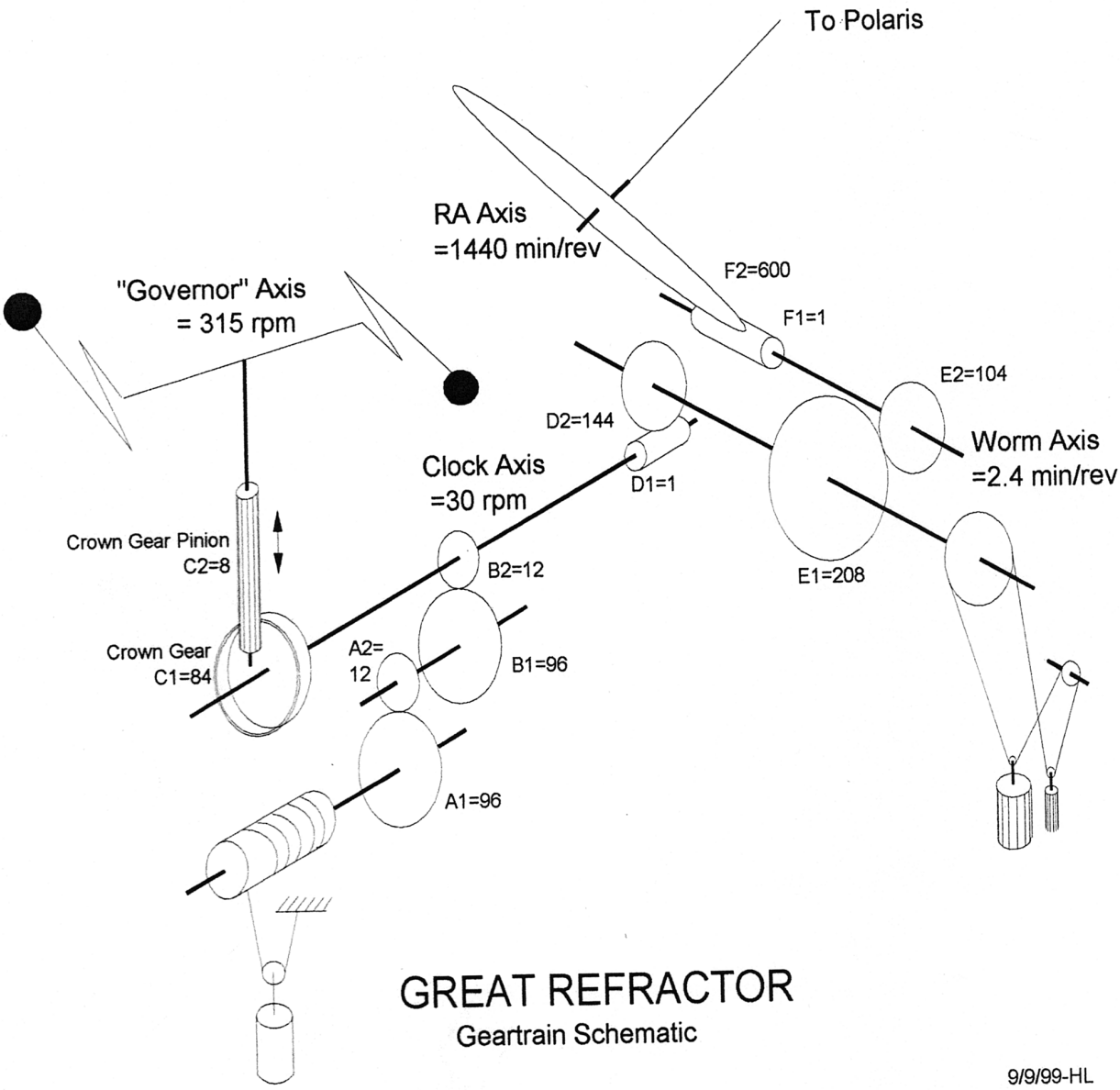
The unique observing chair could be revolved on its circular tracks, and raised or lowered by the observer, to put him into position at the telescope eyepiece. Though not used for some years, the device is still remarkably sound.

A number of significant achievements came quickly after the Great Refractor was first turned to the moon on the afternoon of June 24, 1847. The eighth satellite of Saturn was discovered in 1848 by W. C. Bond and his son, George P. Bond, who was to succeed his father as Director in 1859. In 1850, Saturn's crape, or inner, ring was first observed, again by the Bonds. That same year the first daguerreotype ever made of a star, the bright Vega, was taken by J. A. Whipple working under W. C. Bond, following several years of experiments using smaller telescopes. One of the earliest photographs of a double star, Mizar and Alcor in the handle of the Big Dipper, was achieved in 1857; by now the wet-plate collodion process was in use.

The Great Refractor had an active life of nearly three-quarters of a century. During the first 30 years the work was chiefly determination of stellar positions and the visual observation of planets, variable stars, comets, and nebulae. After the appointment in 1877 of the Observatory's fourth Director, Edward C. Pickering, the telescope was employed almost entirely for photometry.

For the past 50 years, the Great Refractor has been used only for public Open Nights and an occasional student or special research project. It stands now in nearly its original form and surroundings as a primary example of the great telescopes of the mid-19th century.

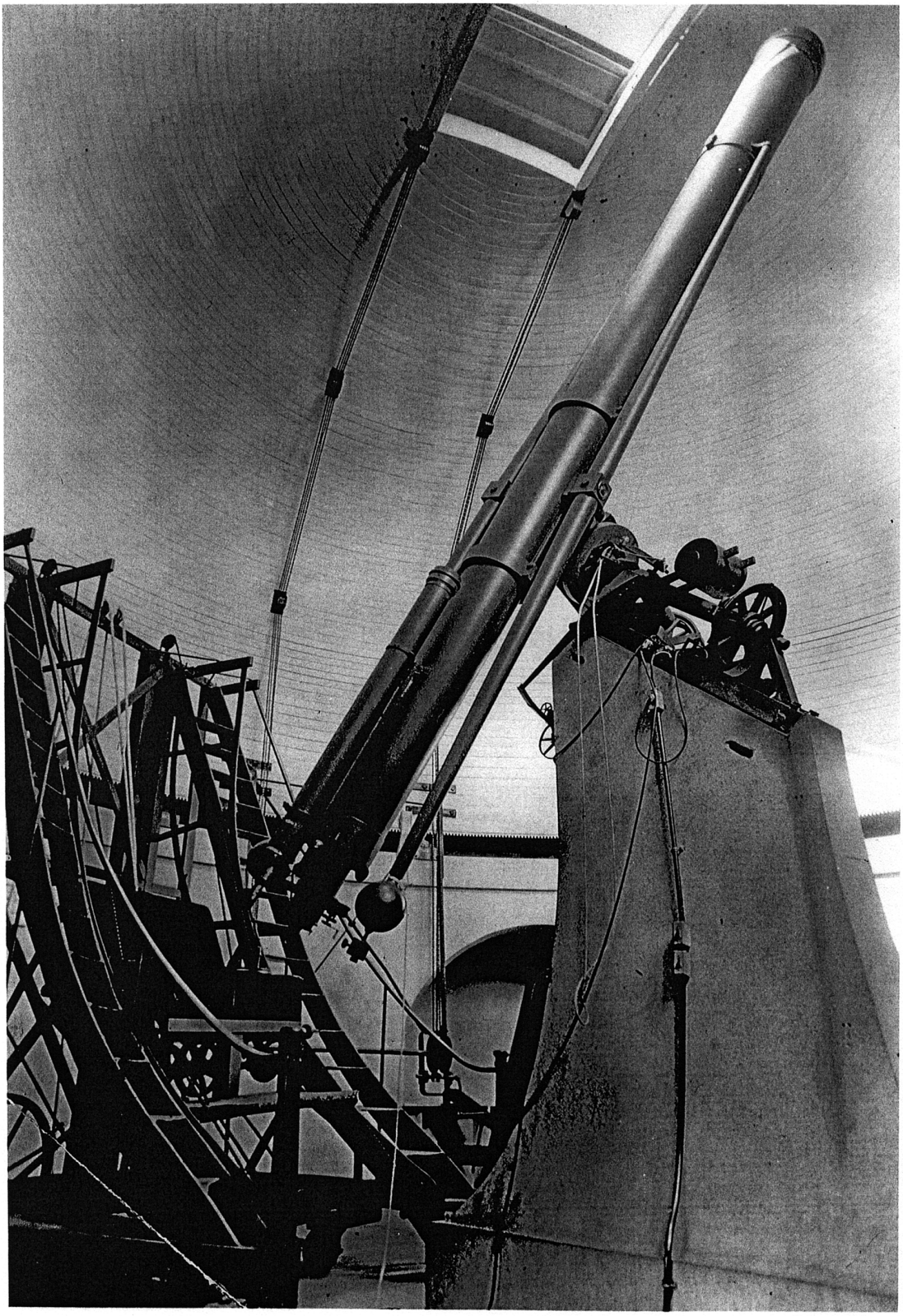


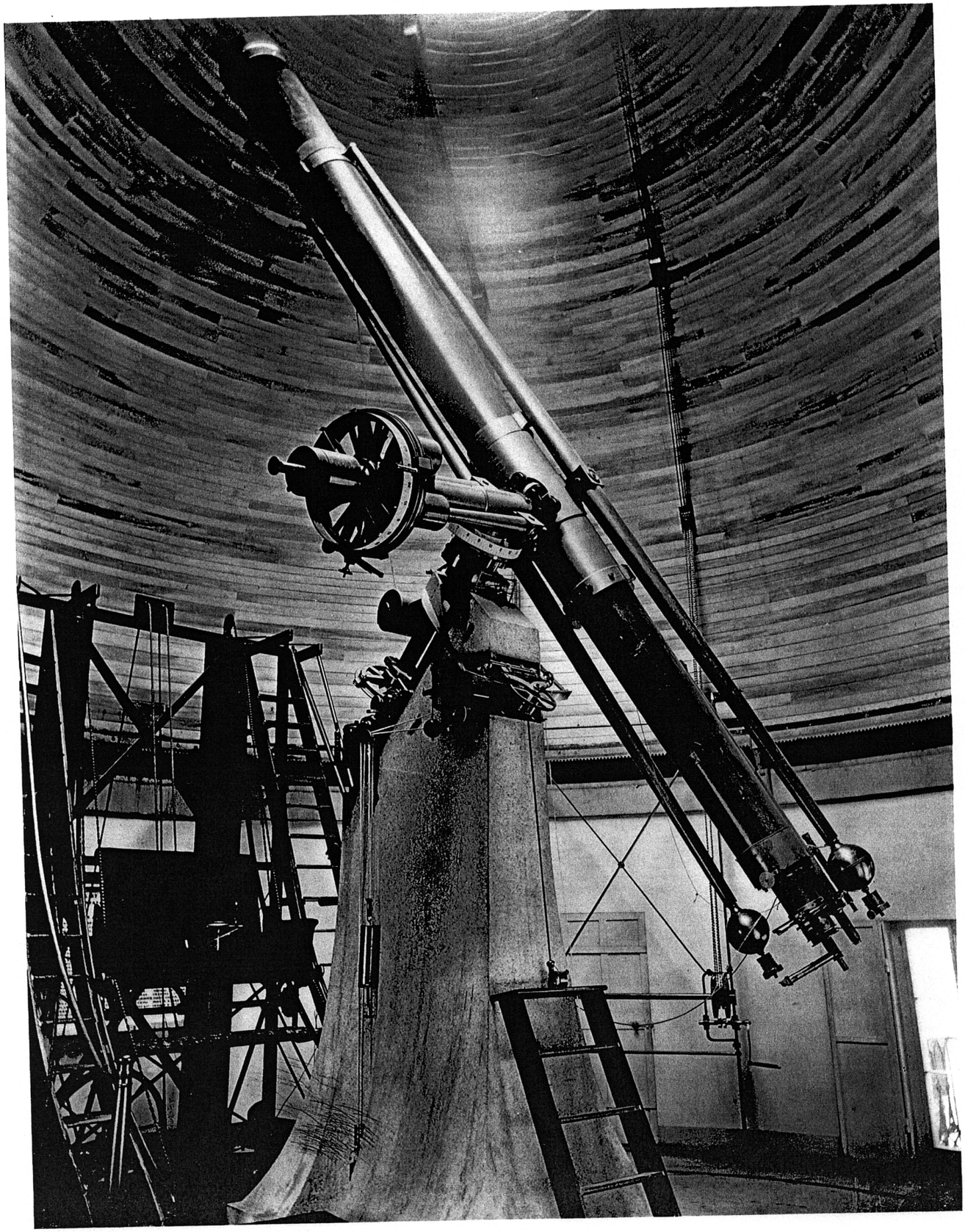


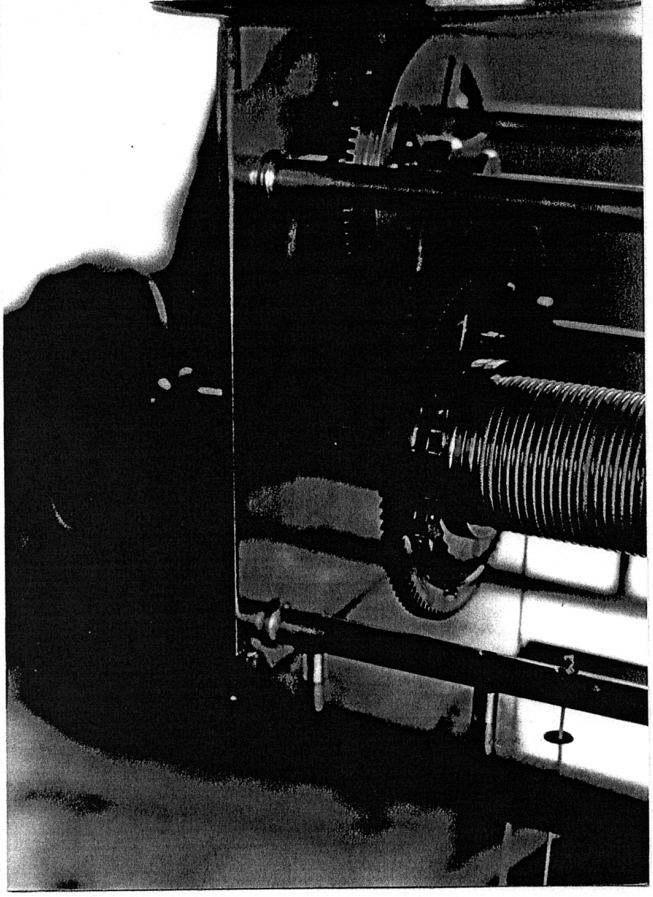
GREAT REFRACTOR

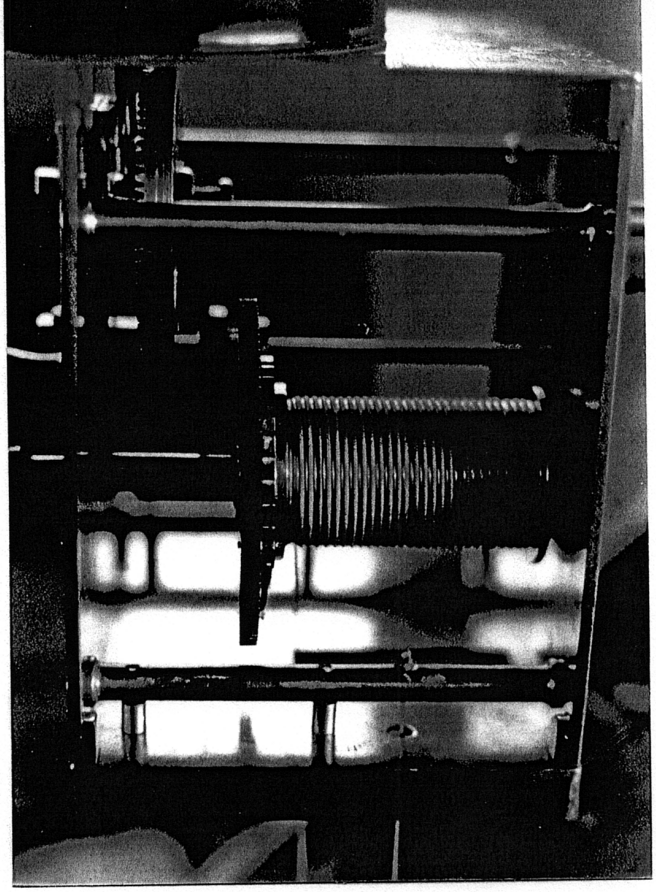
Geartrain Schematic

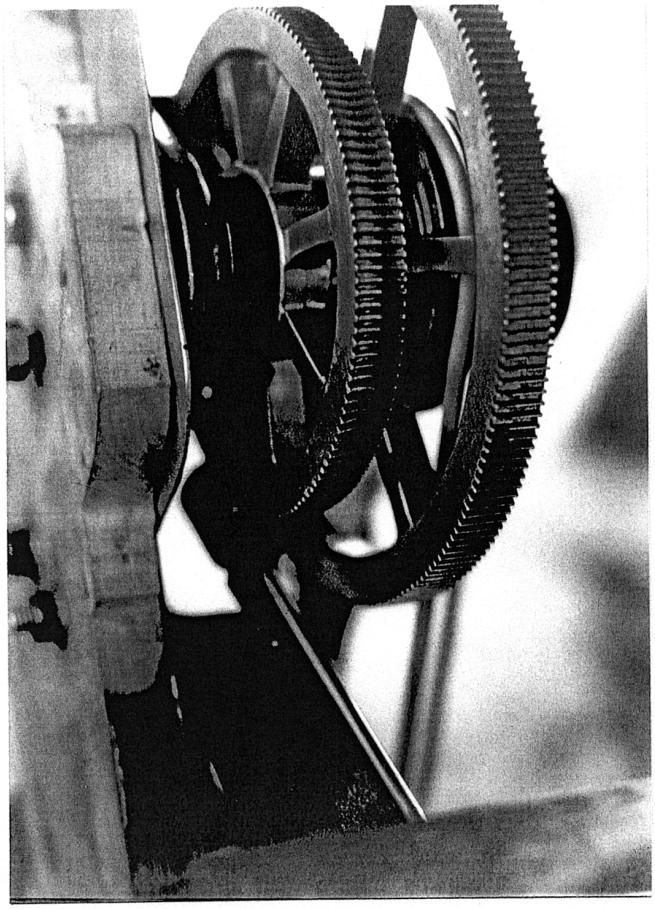
9/9/99-HL

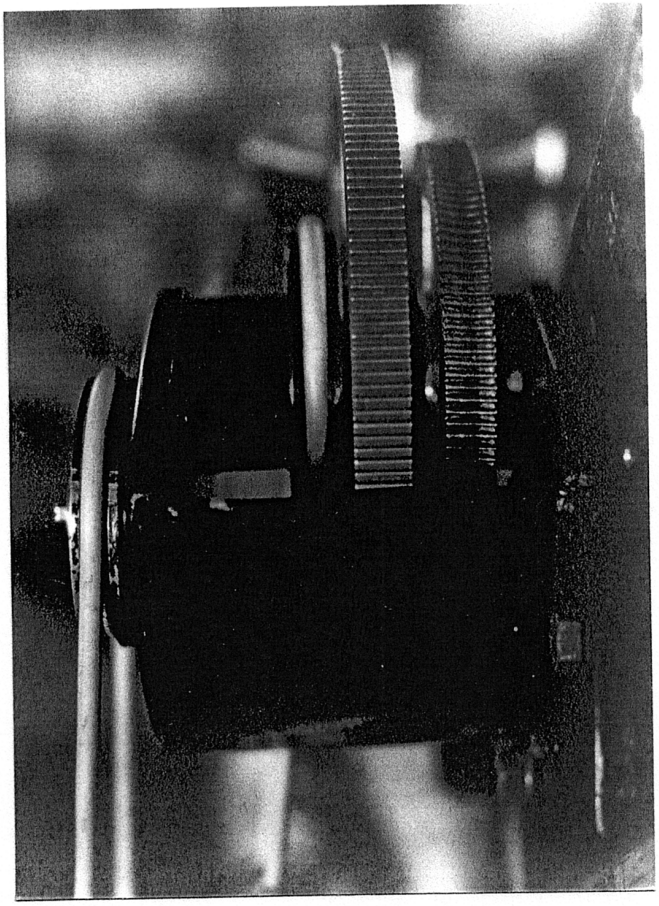


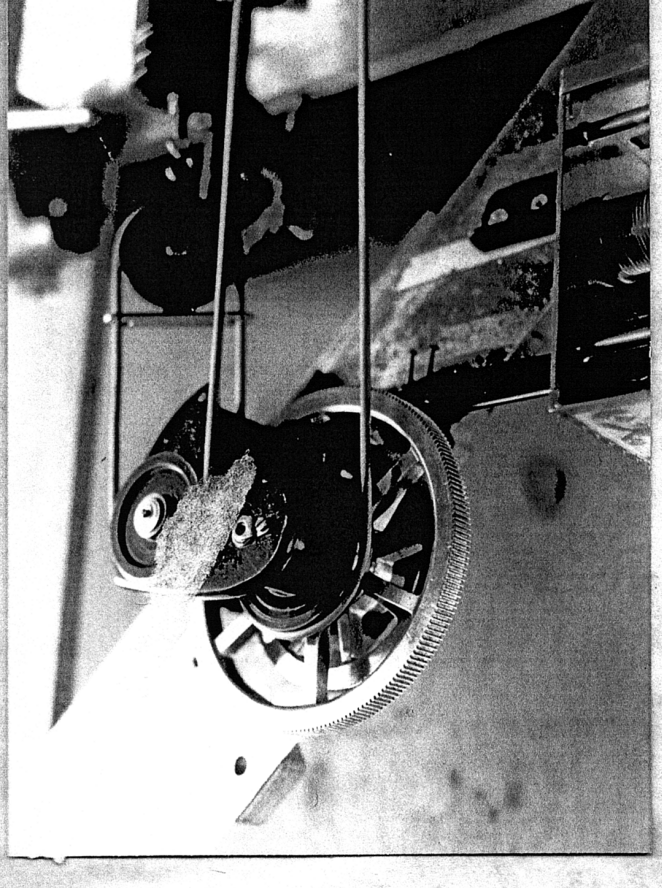


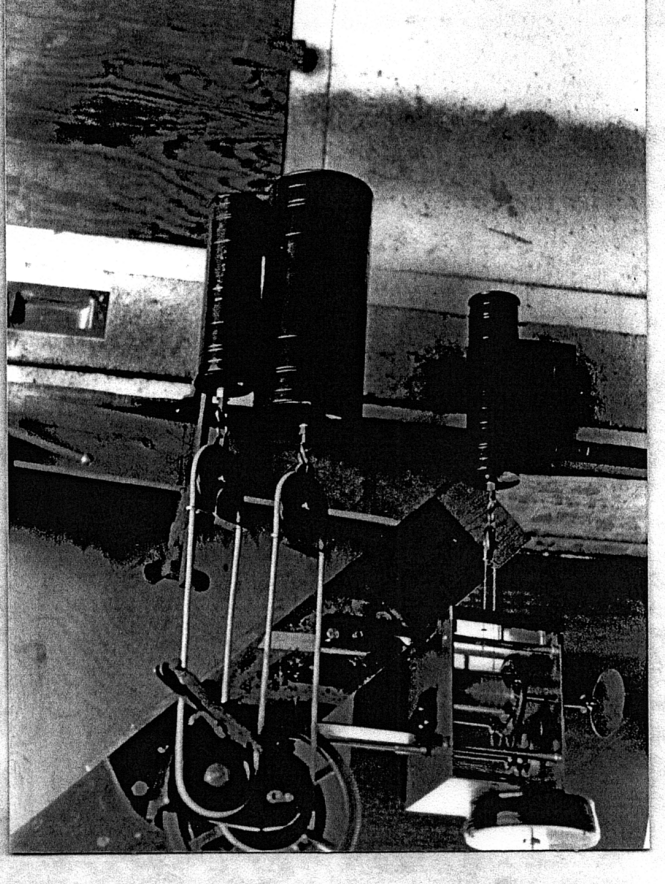


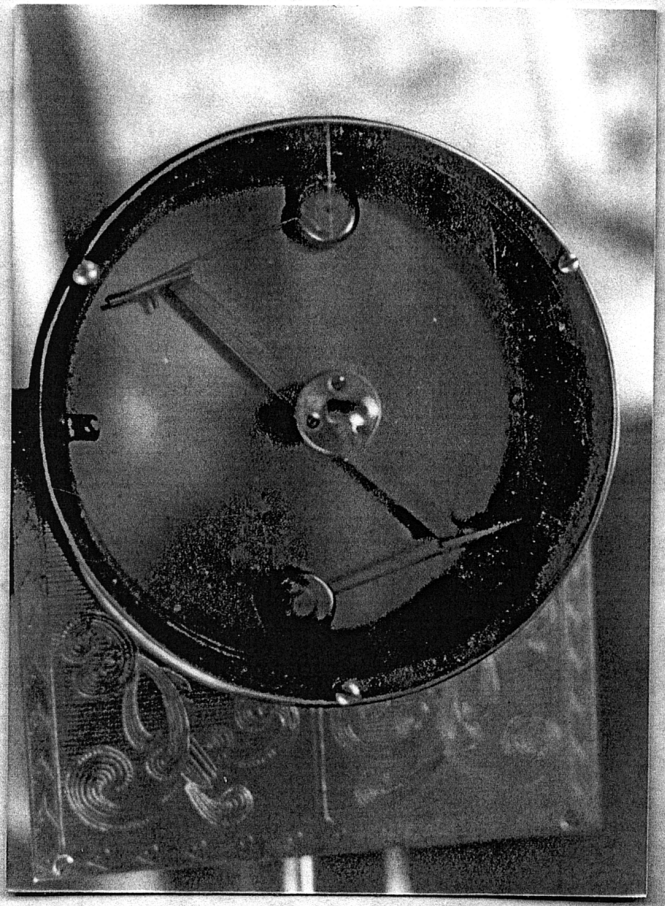


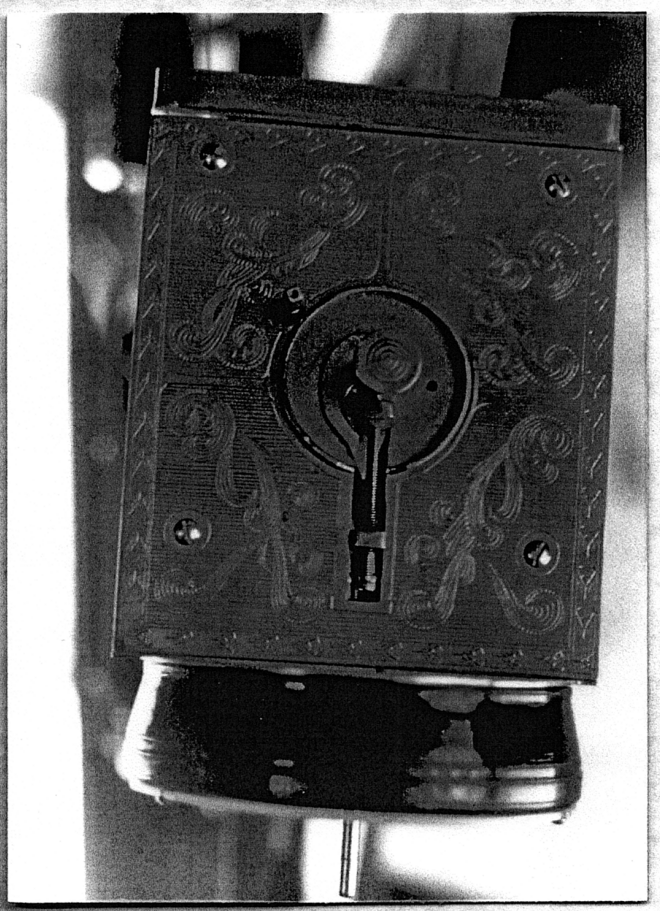


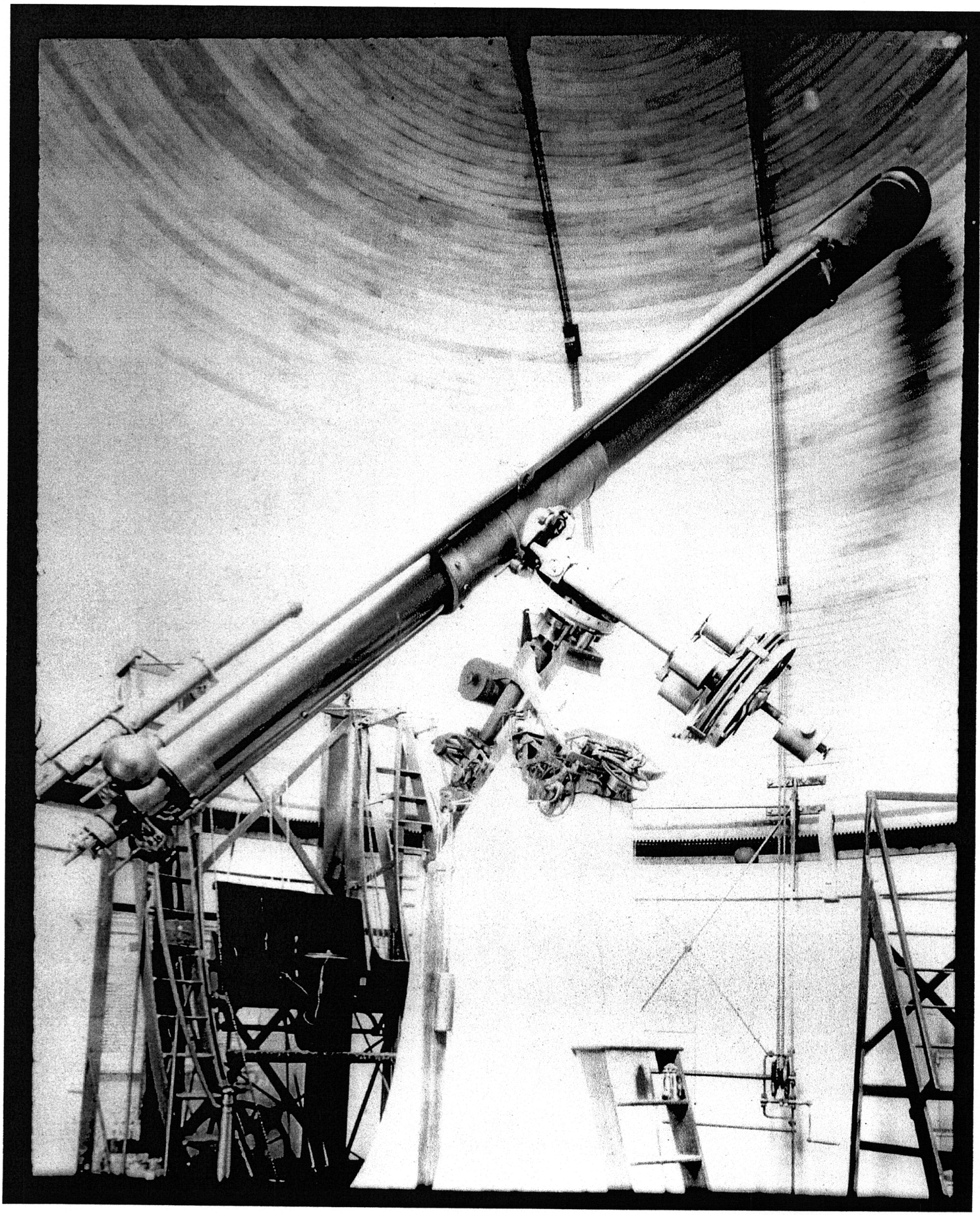


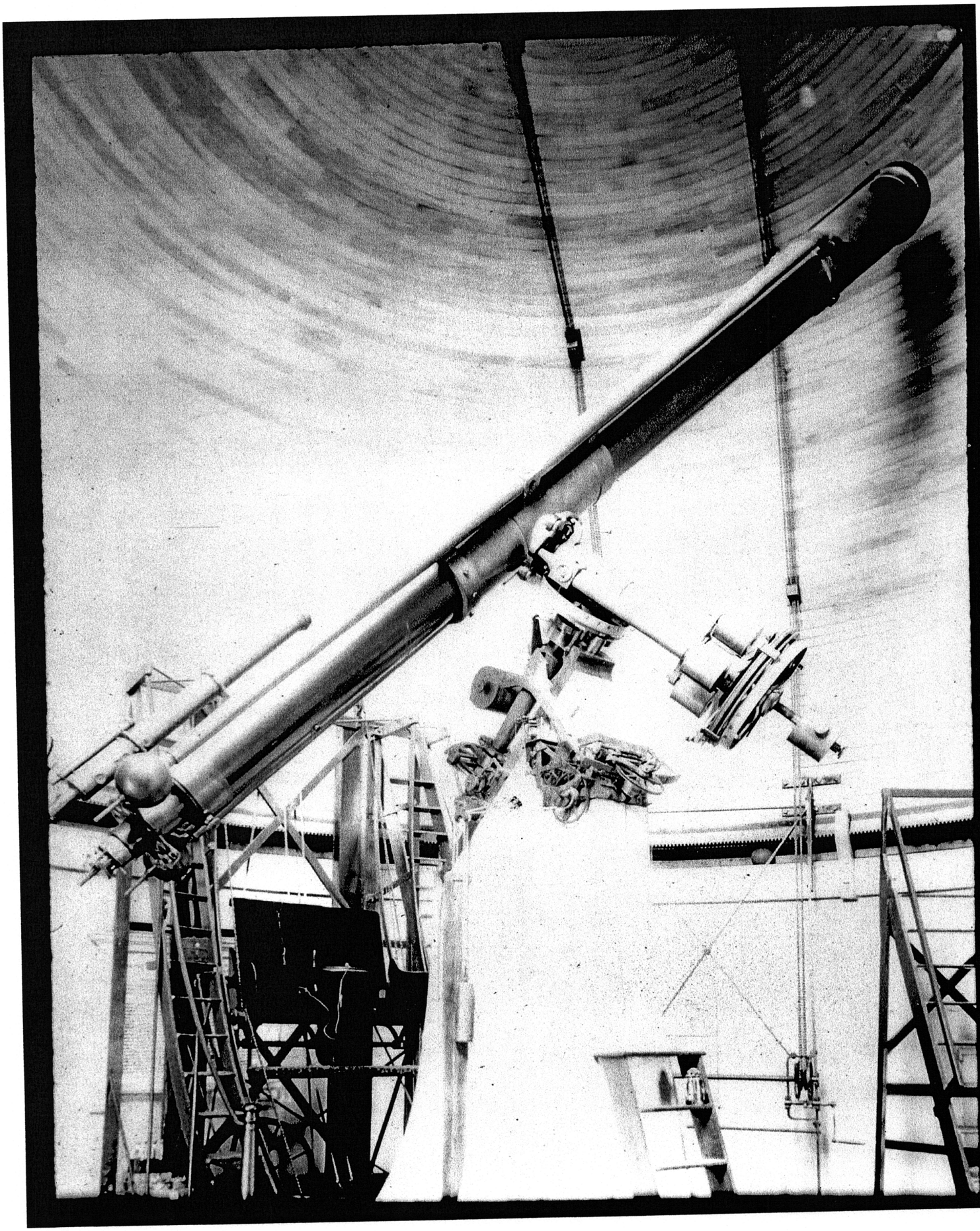


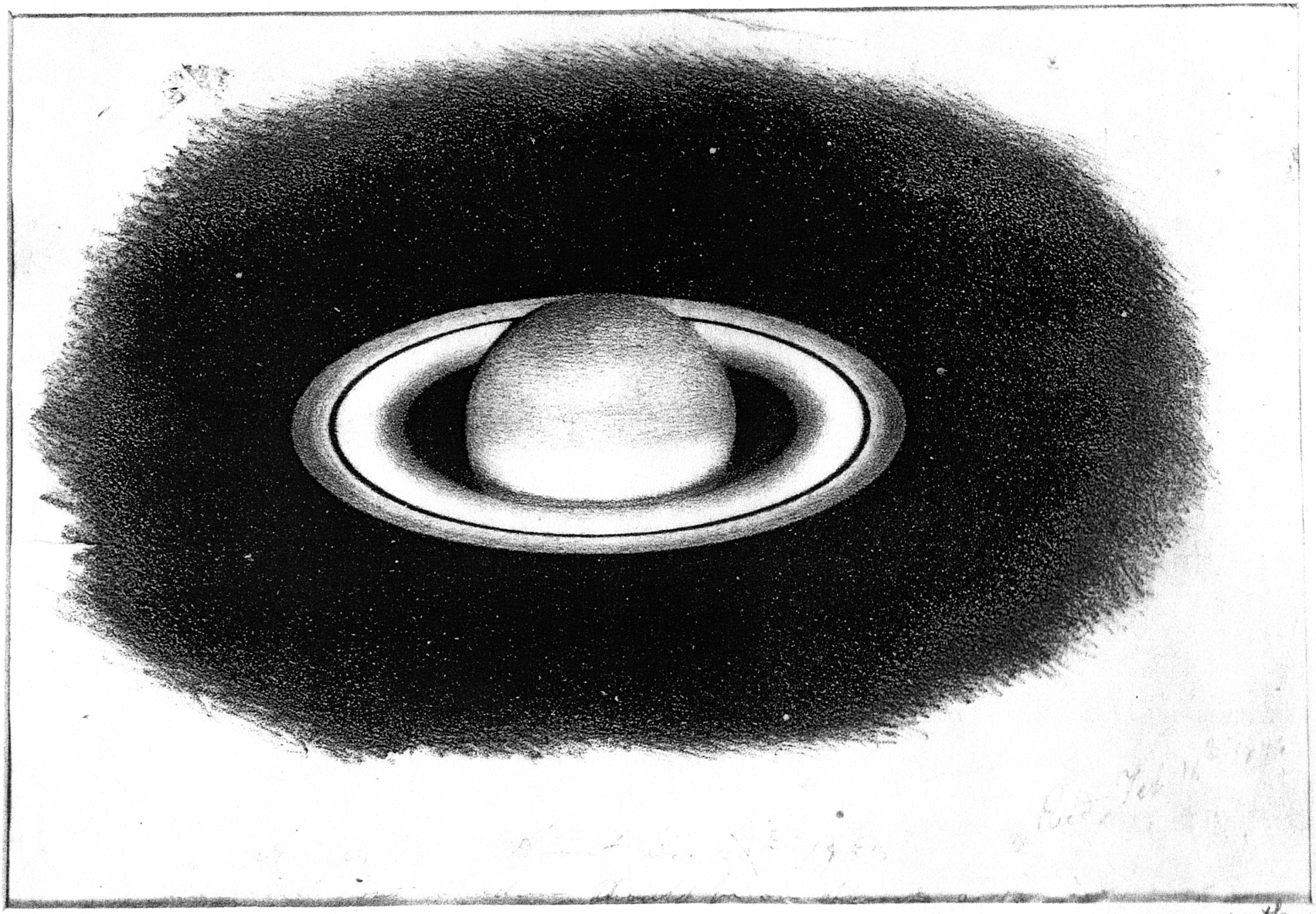








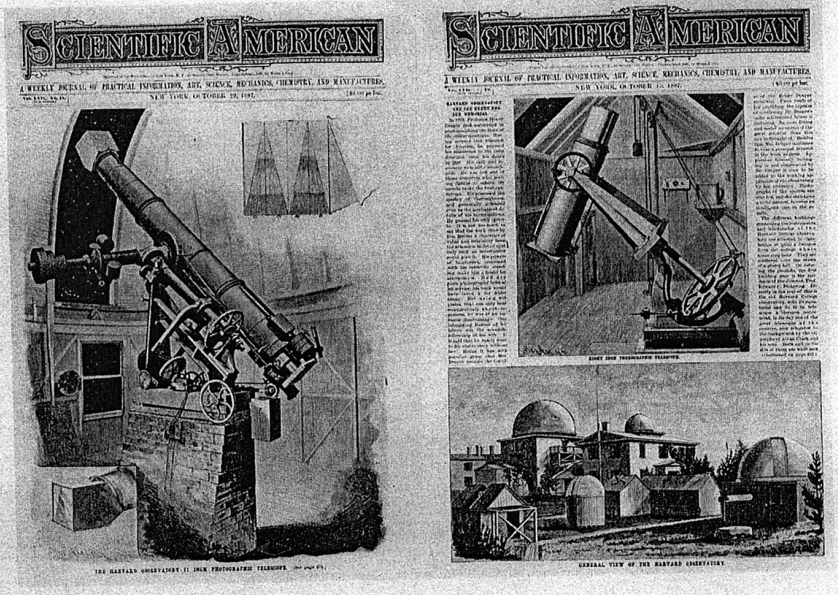




A. Clark About Dec. 20th 1853 Recd. Feb. 16th 18:

Inverted but shadow should be on opposite side

A new symbol for the old observatory? Not quite. The SAO over Orion actually stands for "Sociedad Astronomica Orion," an amateur group in Nogales, Mexico, down the road from Mt. Hopkins.



OLD NEWS – Ninety years ago, the Harvard College Observatory was front-page news in Scientific American. Above are reproductions of the issues from October 15 and 29, 1887, kindly sent to the Publications Department by Gina Woods of Lincoln, Illinois.

BOOK ENDS: LIBRARY NOTES

Recently the Wolbach Library has sold through a library auction service several complete sets of periodicals donated by staff members.

If other scientists have complete sets of any periodicals covering all numbers for a span of 15 years or more, Estelle Karlin would appreciate seeing and evaluating the collections before they are discarded.

The long-range goal is to put any cash earned through the sale of these periodicals into the purchase of more important journals in microform.

CHAISSON WINS BOK PRIZE

The Bart J. Bok Prize has been awarded to Eric Chaisson in recognition of his "original contribution to astronomy," specifically, for "radio-frequency discoveries of the heavy element recombination line, of the doubly-ionized helium recombination line, of the hydrogen recombination lines in planetary nebulae, of the Stark effect in atoms with high principal quantum numbers, and of the molecule CH in Comet Kohoutek."

The fund for this cash prize was contributed by an anonymous donor in honor of Professor Bok and is awarded annually.

As is traditional, Chaisson presented a Bok Prize Lecture in the Phillips Auditorium, May 31. His subject: "Radio Recombination-Line Spectroscopy."

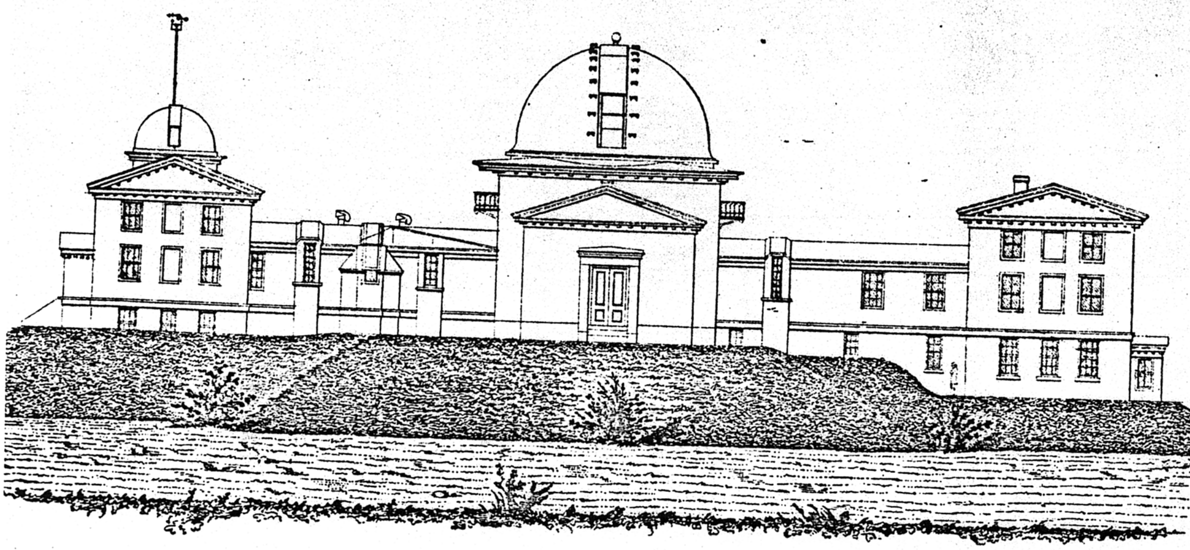
SAO VISITING COMMITTEE VISITED CAMBRIDGE IN APRIL

The Secretary's Committee to visit the Smithsonian Astrophysical Observatory did indeed visit here April 20-21; visited, toured, and listened to presentations by various members of the scientific staff.

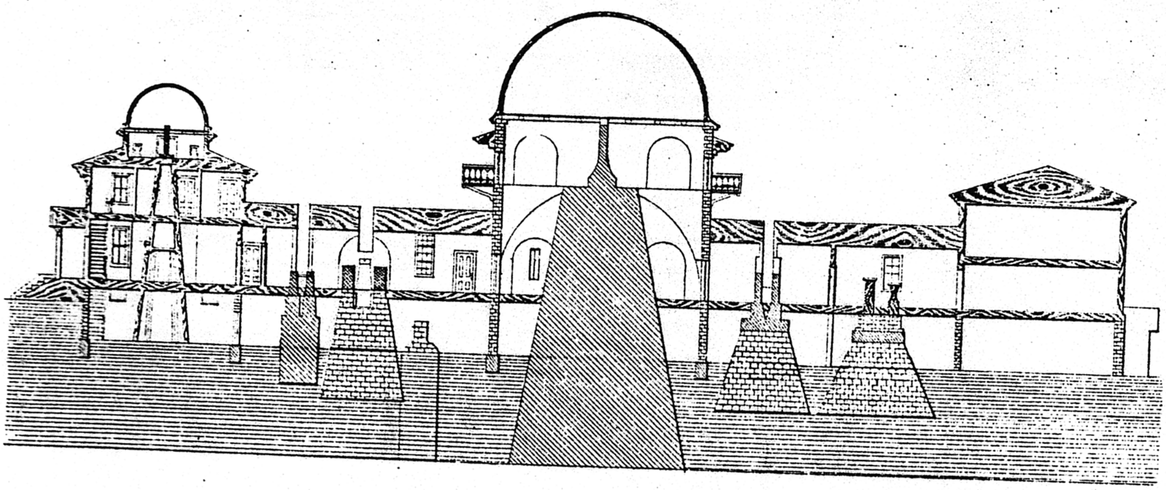
The committee, established in 1975 as a counterpart to the similar, but longer established, Harvard advisory group, includes academics Harvey Brooks of Harvard, William Kaula of UCLA, Walter Orr Roberts of the Aspen Institute, and businessmen A. Lee Loomis of New York, James Wright of Milwaukee, Benjamin Nash of Norwalk, Conn., and Merritt Ruddock of San Francisco. (Ruddock and Nash were unable to attend; and David Challinor, Assistant Secretary for Science, represented Smithsonian Secretary S. Dillon Ripley.)

The committee heard descriptions of current research in Geoastronomy, High-Energy Astrophysics, Optical and Infrared Astronomy, and Solar and Stellar Physics, as well as administrative reports on the general operation of the Observatory. (Committee member Roberts did a turnabout and made a presentation himself to the Observatory staff. His colloquium on "Short Term Response of Weather to Solar Activity" described how large weather systems over the Gulf of Alaska are apparently connected with surges in solar radiation.)

The committee reported favorably on the current state of the Observatory, with particular praise for the x-ray activities and the Langley-Abbot Solar Research Program. Other suggestions and comments on long-term developments were submitted to George Field.



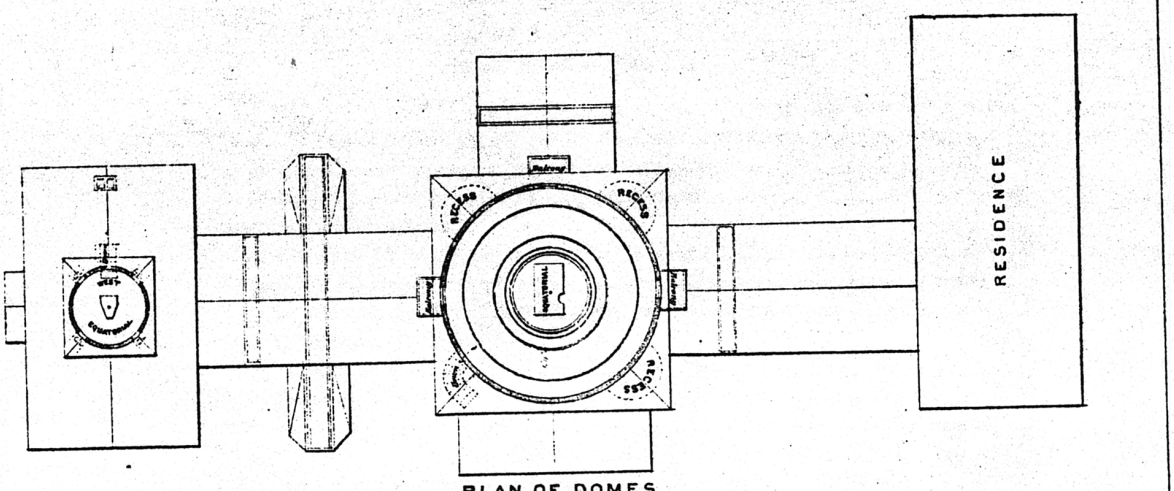
SOUTH ELEVATION.



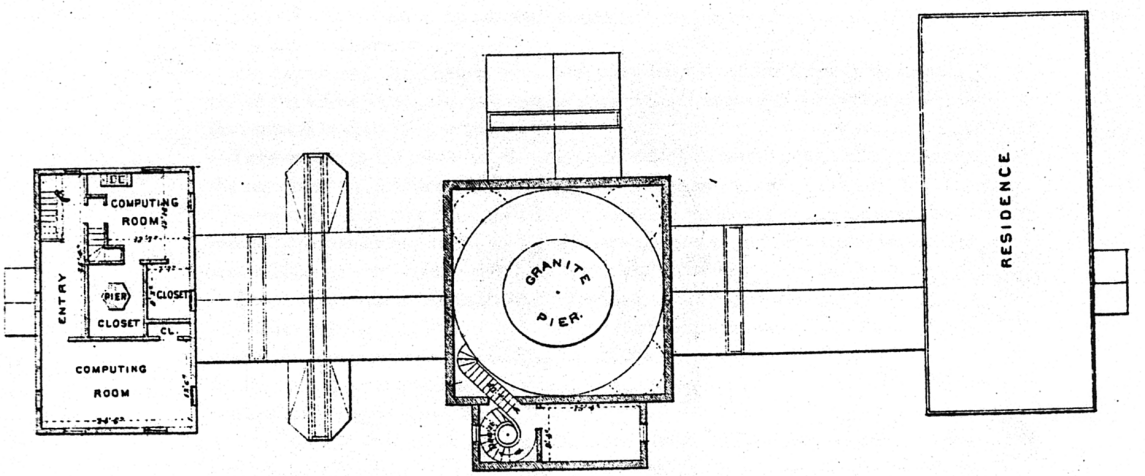
Wood
Granite
Brick
Marble
Sandstone
Soil
Lead

SECTION LOOKING NORTH.

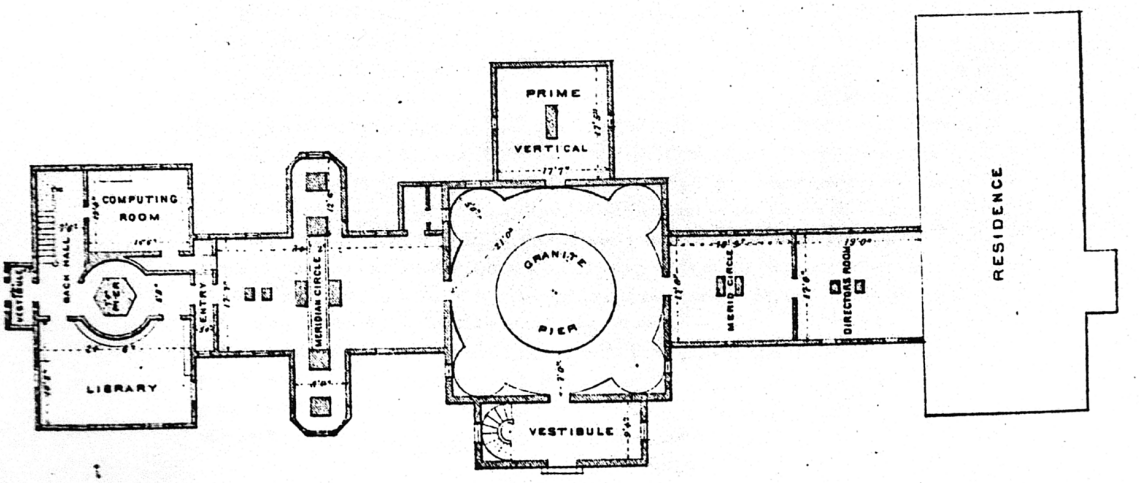
Bufford's 490 Wash^n St. Boston.



PLAN OF DOMES



SECOND FLOOR



FIRST FLOOR

Letter from the Chairman of the Committee, Hon. J. Q. Adams, to the Hon. Edward Everett, President of the University.

Quincy, 27th October, 1847.

SIR: — I enclose herewith the Report to the Board of Overseers of Harvard University of their Committee, appointed on the 4th of last February, to visit the Astronomical Observatory, recently erected in intimate connection with the University, and to report its present condition.

The Chairman of the Committee and the Hon. Josiah Quincy, by the personal indisposition of the former, and other accidental occurrences, were disappointed of giving their attendance on the 21st of September, the day appointed for the visit of the Committee to the Observatory.

The majority of the members of the Committee, David Sears, Abbott Lawrence, J. Ingersoll Bowditch, and Francis Peabody, Esquires, met on that day, and after a personal inspection of the building, now completed, and of the admirable Fraunhofer equatorial, which seems like a visitant from distant worlds to reveal to us their hitherto undiscovered wonders, and after receiving interesting reports from the Director of the Observatory, and from the Perkins Professor of Mathematics and Astronomy, prepared the Report of the Committee herewith enclosed, to be presented at the next meeting of the Board of Overseers.

Mr. Adams and Mr. Quincy, some days after the visit of the Committee, separately visited the Observatory, and, in company with yourself, inspected the buildings and the instruments in their present state.

They concur in the report of the Committee, which is hereto annexed, together with the reports of the Professor of Astronomy and Mathematics, and of the Director of the Observatory. And they trust they do not transcend the duties of their commission in earnestly recommending to the Board of Overseers, and to the Legislature of the Commonwealth, the continued parental protection and patronage of the University.

There is yet one instrument of extraordinary power for astronomical observation, long since ordered, but still to be received before the apparatus of observation will be complete. We may hope the annual report of the Committee of the Board of Overseers for the next year may announce it as an event consummated. In the mean time, we venture a few suggestions for consideration.

The establishment of an Astronomical Observatory for continued recorded observation of the phenomena of the heavens, in immediate connection with the University, presents itself in a twofold aspect, for the exercise of the superintending authority of the Board of Overseers, and the more comprehensive power of the Legislature of the State. The authority of the Board of Overseers is merely administrative, and it can take cognizance of the Observatory and its management only as of one department of the circle of sciences which it is the object of the University to familiarize by instruction to the educated children of the land. But an Astronomical Observatory, independent of its connection with the University, is of itself an object of deep interest to the Legislature, and to the people of this Commonwealth. An Observatory is a standing testimonial to the progress in the career of civilization of the people on whose soil it is located. It is more, — it is, by the purposes to which it is devoted, a temple hallowed to the worship of the Creator, raising the souls of all who are admitted to its nightly disclosures to a more intimate communion with the Author of the Universe, and with the ever-multiplying wonders of his creation.

Among the writings of Thomas Shepard, one of the earliest and most eminent founders of the churches of New England, was a discourse on the parable of the Ten Virgins; and that same parable may furnish an instructive image of a lamp committed to our hands to spread the light of Science on all our region round.

We therefore respectfully propose to the Board of Overseers, that, on their appointing their Committee on the Observatory for the ensuing year, they should add to the appointment a resolution charging the Committee, in consultation with the President of the University, the Professor of Astronomy and Mathematics, and the Director of the Observatory, to prepare and report to the Board a plan for the occupation and employment of the Observatory in both its capacities as a constituent department of the University, for the instruction of youth, and as one of the watch-towers of human science erected by a spontaneous and sympathetic consent of civilized nations, to extend by constant observation and calculation the knowledge of the physical universe. Such a plan, modified as it may be by the wisdom of the Board of Overseers, seems indispensable to vivify and animate with an active principle of usefulness the new instrument of human improvement committed to our charge; and should it meet the approbation of the Board, may, by the ultimate co-operation of the popular branch of the State Legislature, be shaped into a statute of the Commonwealth and of the University, which shall manifest the unabated adherence to the Pilgrim principle which presided at the foundation of Harvard College, and admonish our children of after ages, that the blessings heaped upon them during successive centuries since the first settlement of the country, by the unceasing and provident care and affection of their forefathers, impose upon them the corresponding duty of making like provision for their own posterity.

And finally, as this is in all probability the last opportunity that will be indulged to the Chairman of this Committee to report to the Board of Overseers on the condition and prospects of this new instrument of power, added to our most ancient seminary of learning, I would with my last words repeat, that, to its effective usefulness to the cause of science, of our country, and of the human mind, the patronage of the Legislature will be required. An annual course of Lectures upon practical Astronomy, including the history of the science, ancient and modern, its connection with Optics and Mathematics, Geometry, Geography, and Navigation, the construction of instruments used to assist the organs of vision, the description and uses of the several instruments, and the art of using them, might become a part of the instruction to be communicated to the students of the University, and it would be very desirable that a select number, say of five from each class, to be selected by the President and Fellows of the Corporation, should be assigned to take part as assistants in turn for the nightly observations of the Director of the Observatory. I trust they would consider it rather as a privilege extended to their voluntary acceptance, than as a burden added to their duties. And I cannot forget that a permanent provision is yet to be made, by the liberality of the Legislature, for the compensation and support of the Observator, the living soul, of which the cloud-capt tower, and the equatorials and prime-verticals and mural and refraction circles, are but the lifeless mechanical instruments, like the sword of the patriot in the hand of the warrior.

I am, with the highest respect, dear Sir, your friend and servant,

JOHN QUINCY ADAMS,

Chairman of the Committee of the Board of Overseers of Harvard University on the Observatory, appointed 4th February, 1817.

1852 Clark telescope at Williams College.

7

Purchased
July 7, 1932

THOMSON & THOMSON.

BOSTON, MASS.

No. 742

Title Harvard College Observatory

Town Cambridge, Mass.

COLOR DESCRIPTION

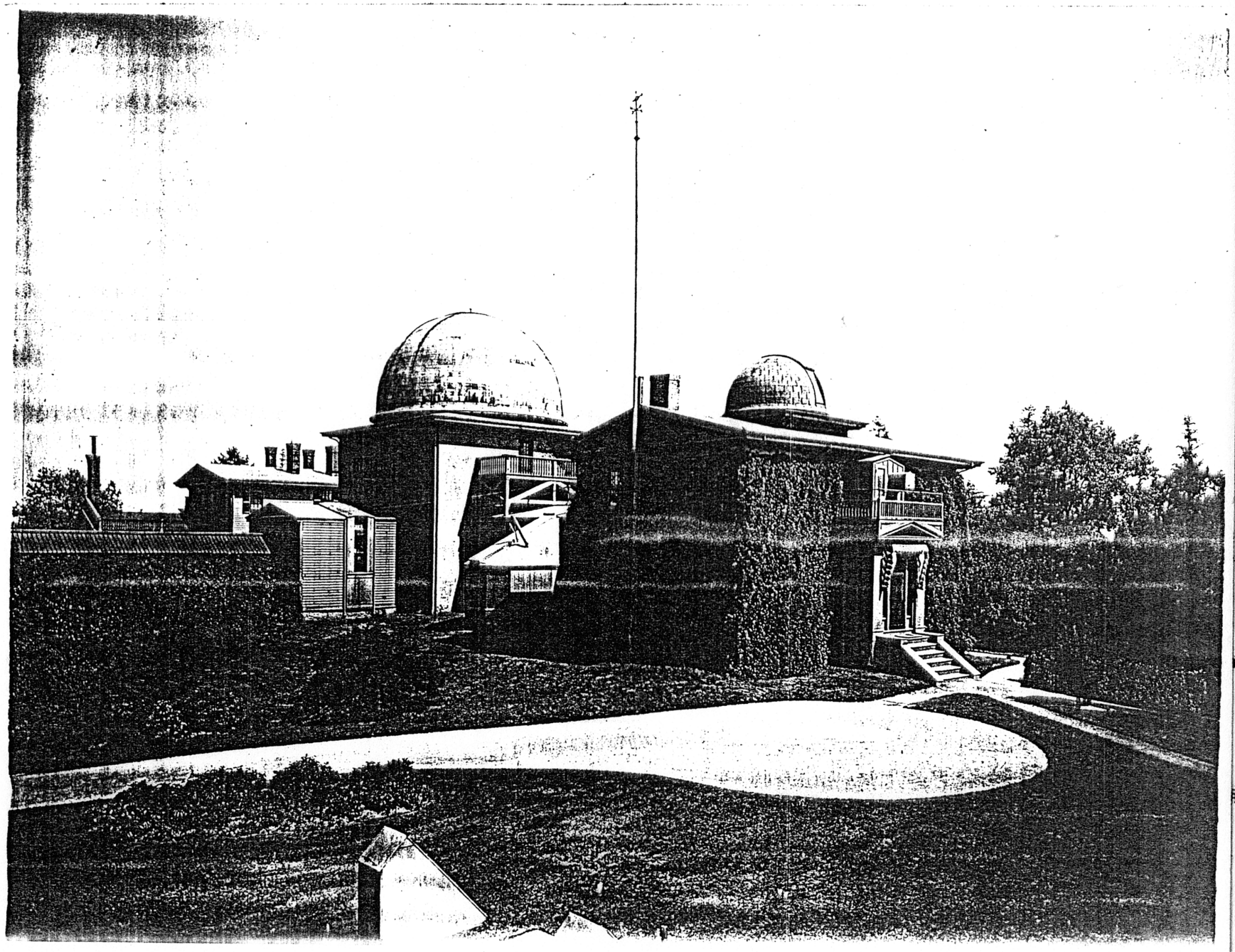
Buildings brownish grey. Dome on right,
brownish grey. Dome on left & roofs, li
light green

Roof chimneys, brown.

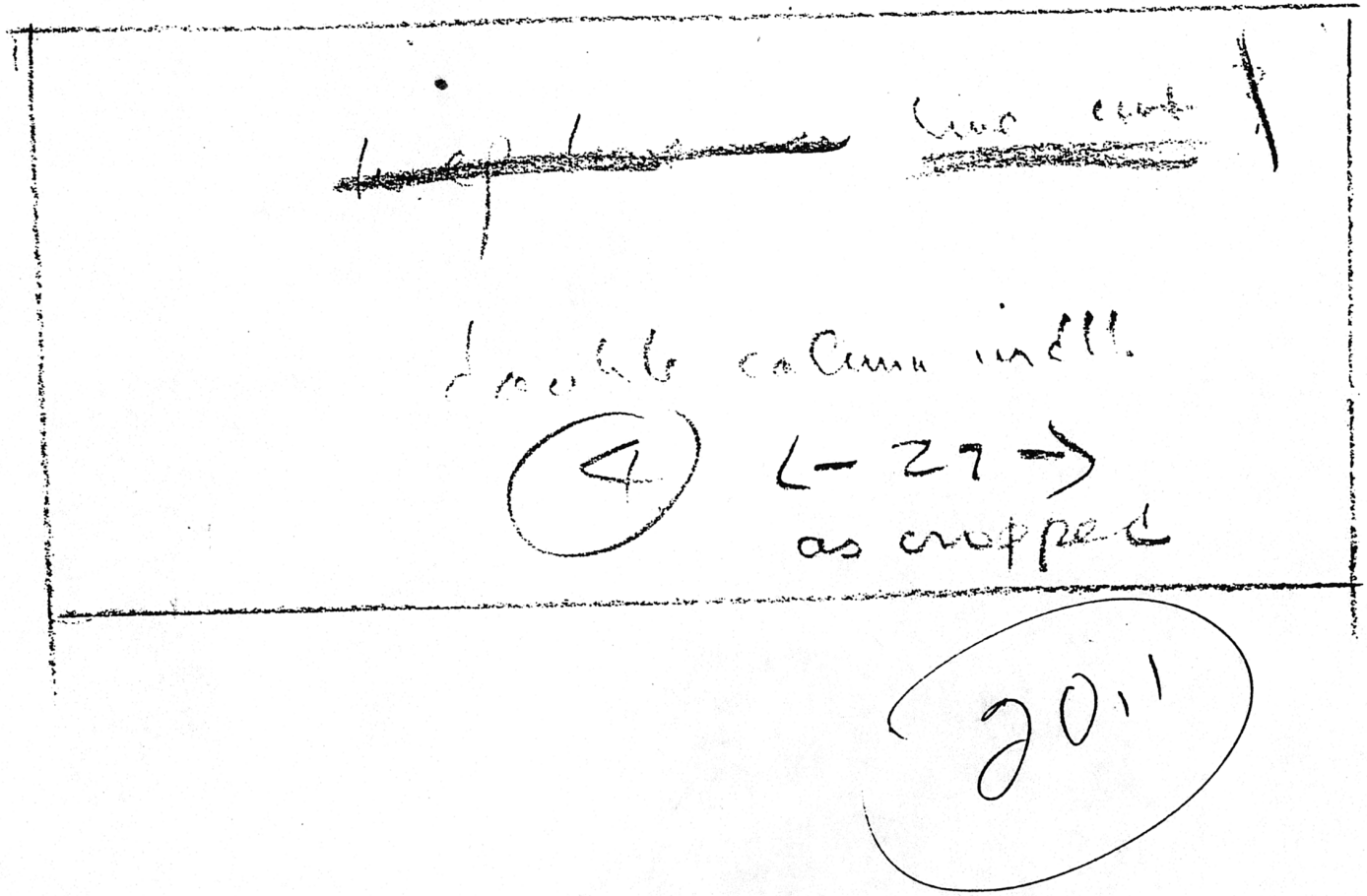
Trimmings

Pavements & steps, grey.

Remarks



From: Annals of the Observatory of Harvard College Cambridge, Mass (1876)



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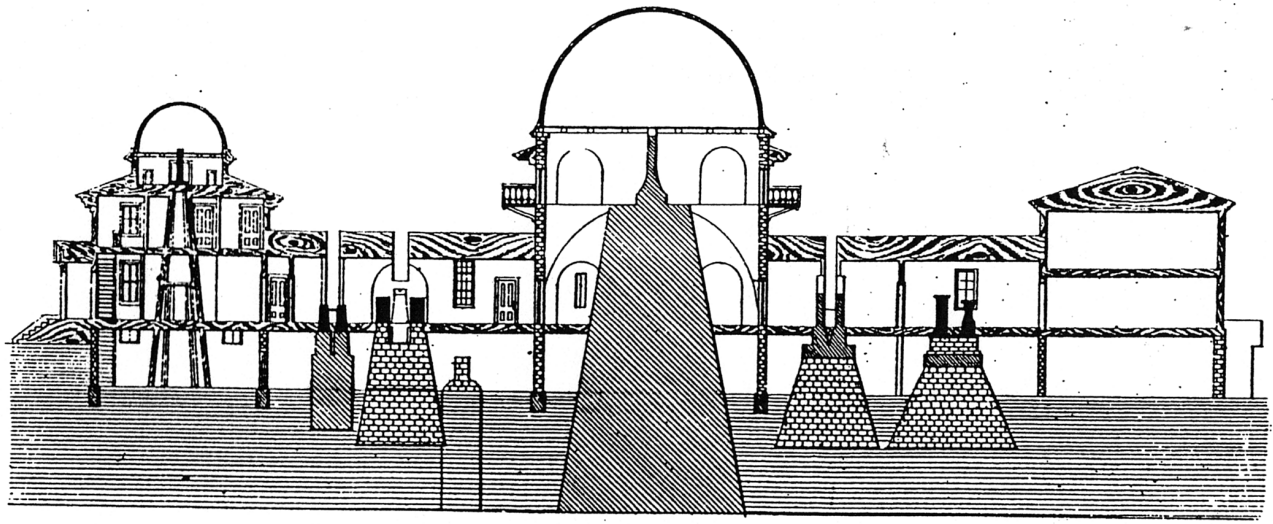
SOUTH ELEVATION.



Wood.
Granite.
Brick.
Marble.
Sandstone.
Soil.
Lead.

SECTION LOOKING NORTH

SURVEY OF ARCHITECTURAL HISTORY IN CAMBRIDGE

REPORT FOUR: OLD CAMBRIDGE

Bainbridge Bunting
Robert H. Nylander

Cambridge Historical Commission
Cambridge, Massachusetts

Distributed by the M.I.T. Press

341. DANE HALL, 1832.
DEMOLISHED 1918

size of the proposed building (Matthews Hall) and its relation to Grays were such that Dane Hall had to be moved 70 feet south to make room for it. In the meantime a rear wing had been added (1844) to house the growing law library, built by Isaac Melvin, the Cambridge housewright whose work on Dana Hill was discussed in *Mid Cambridge*. The Law School used Dane until the completion in 1883 of Austin Hall; it burned down in 1918. The rapid growth of the Law School after the appointment of a full-time professor—Judge Joseph Story in 1829—is also illustrated by the construction and repeated enlargements of Graduates' Hall (or College House) on the west side of Harvard Square as a dormitory for law students, discussed in Part Two (Figs. 21-22).

No architectural topic better illustrates the growth and changing face of Harvard University than the manner in which it has stored books. For the first two centuries the college library was located in a second-floor room in each of the three successive Harvard Halls. In 1815, when chapel services were transferred from Harvard Hall III to University Hall, the library was allowed to expand to the entire second floor of the former, but within two decades this space became inadequate. When the Massachusetts legislature in 1833 refused funds for library expansion, the university decided in 1838 to use the $100,000 bequest of Governor Christopher Gore for the necessary building. At the time Gore Hall came into use in 1841, it contained 41,000 volumes and was expected to provide for growth for the next seventy-five years. Instead the building was overflowing in less than one-third of that time, and only the establishment of college and departmental libraries made it possible to shelve the yearly flow of acquisitions.

The library, Gore Hall, stood on the site of Widener with its front to Harvard Street (Massachusetts Avenue). Set well back from the street and the first structure erected east of the college quadrangle, this building of Gothic appearance was designed in 1838 by Richard Bond. The structure built of Quincy granite and 140 feet long was cast in the shape of a cross; small octagonal towers enframed a large traceried window at each end of the main block (Fig. 342). Obviously aware of King's College Chapel in Cambridge—a building most likely known through an engraving—the designer was unable to make his Gothic forms convincing. Stiffly symmetrical in massing, the detail was

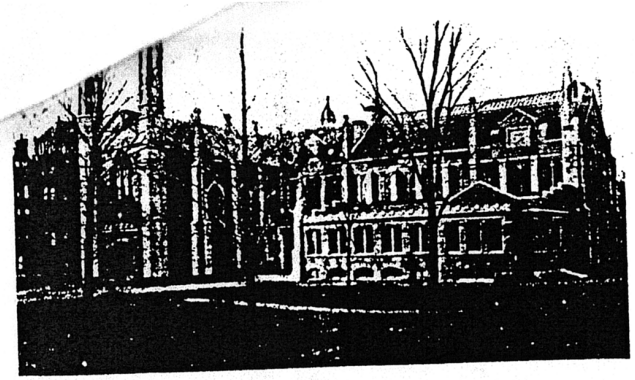
side of the south, ground-level entrance to Widener Library. Yet the design was not as tight and ill scaled as that of Bigelow Chapel at Mt. Auburn Cemetery, the work of a complete amateur (Fig. 93). In contrast to either of these stiff buildings of stone, uninhibited Yankee carpenters putting up Gothick cottages in wood at 85 Brattle Street or on Mifflin Place produced buildings of undeniable charm (Figs. 174, 176). That the library was much admired in its day, however, is indicated by the fact that it was chosen as a prominent design element for the city seal when Cambridge was constituted a city in 1846 and remains as the sole motif of the seal today.

Gore Hall was no more distinguished for the way it functioned than for visual qualities. The nave of this Gothic edifice served as reading room with books grouped in alcoves in narrow side aisles (Fig. 343). This arrangement corresponded with the library's early policy of keeping large collections together as units rather than of shelving books by subject matter, an inconvenient system for readers but one that gratified donors. (By thus encouraging gifts, the college had accumulated 70,000 books by 1857, to be the second largest library in the country, though the yearly purchase budget was only $500.) On the other hand, the designer tried to minimize the danger of fire by using iron roof trusses and floor supports though there was still some wood trim to remove in 1895 when the building was thoroughly fireproofed. The original installation included a steam heating system, which attracted attention at the time it was designed by Professor Treadwell.

In the course of its life the building underwent various changes and enlargements. About 1850 the octagonal corner towers, which rose to 83 feet, were reduced for structural reasons, but it was lack of space that presented a more urgent and never-ending problem. By 1876 the college, having failed to find a donor for a new building, appropriated money from general funds for a sizable stack wing built on the east side. This addition was important historically because of the experimental design of the stacks in which the weight of each tier of books was transferred to the foundations through steel book stacks rather than through the frame of the building (Fig. 344). The design was worked out in 1874 by Ware and Van Brunt and the college librarian, John Langdon Sibley.

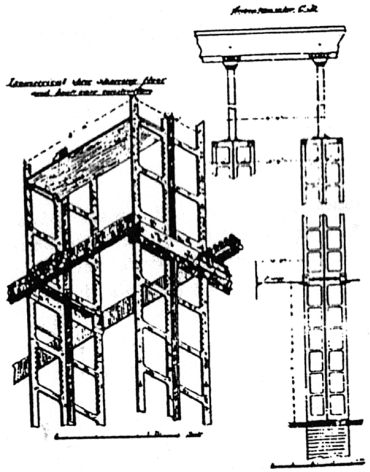
In 1895 the building was again remodelled, this time to convert the old reading room in the "nave" into three tiers of stacks and a reading room on the top level. Electric lights were installed in 1891, a year before they were put into other college buildings; a two-story administrative wing was added in 1906. Since the location of Gore was clearly the proper one for the college library, the old building had to be demolished in 1913 before Widener could be started. This condition involved moving the collection to temporary storage during the two years of building: thirteen depositories were needed to accommodate the half-million books, of which the largest part was stored in Randall Hall, built in 1898 as a students' dining hall on the present site of William James Hall.

A fascinating but almost forgotten building from this period was constructed in 1843 to house the Panorama of Athens, a large painted cityscape of ancient Greece which had been donated to Harvard in 1831. Similar to but evidently smaller than the later Cyclorama in Boston, the painting might be termed an



342. GORE HALL, 1838. RICHARD BOND. ADDITION, 1874. WARE & VAN BRUNT. DEMOLISHED 1913

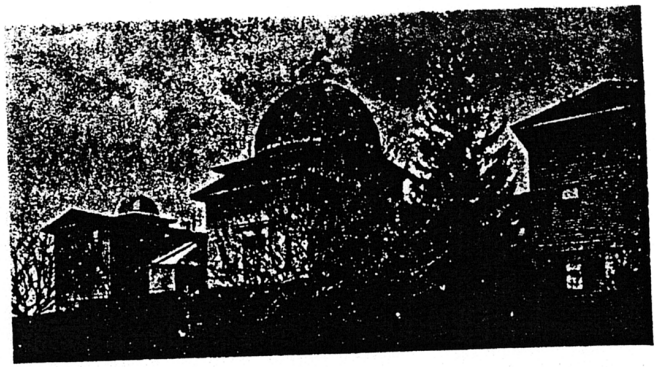
343. GORE HALL. INTERIOR. NOTMAN PHOTO OF C. 1876



344. GORE HALL ADDITION, 1874, WARE & VAN BRUNT. METAL STACKS. PUBLISHED 1878 IN *AMERICAN ARCHITECT AND BUILDING NEWS*

early visual teaching aid, and it may represent the college's first recognition that the visual arts have a legitimate role in formal education. The circular building that housed the panorama stood in back of College House, was burned in 1845, and was not replaced.

Little or nothing is left of the next two Harvard buildings: the original Harvard Observatory (1843) and Lawrence Hall (1847). Both had a somewhat Italianate character with tall, towerlike masses capped by low pediments of broad projection. The observatory design by Isaiah Rogers followed a familiar Palladian

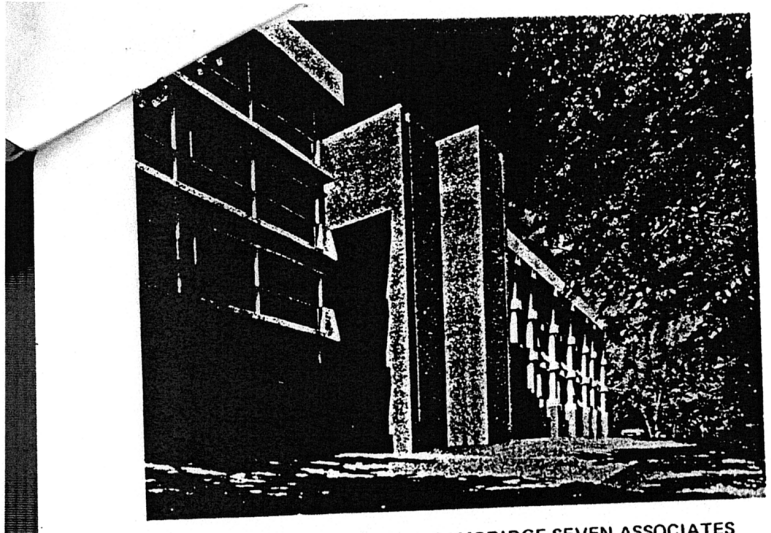


345. HARVARD OBSERVATORY, 1843. ISAIAH ROGERS. PHOTO OF 1865

five-part scheme with brick central section and end pavilions of wood connected by lower wings (Fig. 345). The geometric formality of the design was enhanced by broad overhanging cornices. Such a compartmented scheme was well suited to a building serving varied activities. Clearly expressed by the dome set on a low attic above the pediment, the central block housed the observatory; the west wing added in 1851 contained classrooms and library, while the residence of astronomy professor, W.C. Bond, occupied the east wing. Located at the crest of Observatory Hill, near the site of the earlier Vassall summer house and some 50 feet above the general level of Cambridge, the building with its three pediments and formal mass presented a striking composition. Unfortunately both wings have been removed to permit enlargements, the west wing in 1960, the east in 1954 (see below). The old observatory, which was the scene of numerous important astronomical discoveries, is so hedged in by later buildings that it is now difficult to find.

Lawrence Hall, the early home of the scientific school endowed by Abbott Lawrence, was the work of Richard Bond, designer of Gore Hall. Built on the north side of Cambridge Street and planned like the observatory as a five-part composition, it was never brought to completion by adding the west wing to balance the professor's residence about the central pavilion (Fig. 346). The considerable height, vertical proportions, and active geometric composition of this building made an instructive contrast with Divinity Hall erected twenty years before, since the basic composition and the use of brownstone and brick were also somewhat similar. The interior of Lawrence Hall was radically remodeled in 1871 when the two-level division of the main building was redivided into three. Here Ware and Van Brunt were freer in changing the exterior: the impressive central door was removed and a low third story was added, but they worked within the original style and reproduced the details of the pediment. In 1970, when scheduled to make way for the Undergraduate Science Center, Lawrence Hall was gutted by fire and demolished.

Three buildings of importance were erected by Harvard just prior to the Civil War: Appleton Chapel (1856), Boylston Hall (1857), and the Museum of Comparative Zoology (1859). So dissimilar in design and so unrelated in



410. PERKIN BUILDING, 1970. CAMBRIDGE SEVEN ASSOCIATES

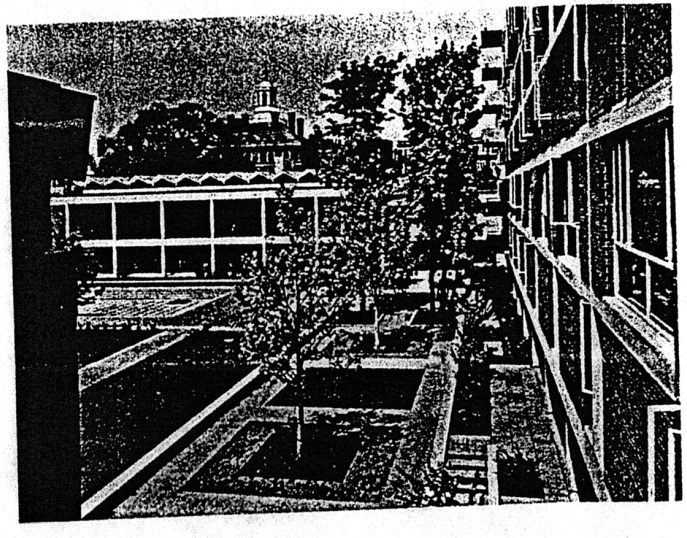
The Harvard Observatory atop its own hill and surrounded by tree-filled grounds is an architectural world apart. It is composed of seven connecting wings—each on a different level—strung together around the original observatory and creating in the process two irregular courtyards. Although the designer of each section was oblivious of all that had gone before, a kind of organic growth is evident in the way the observatory has expanded down the sides of the hill, each unit becoming larger and more imposing than its predecessor. Of the original 1843 observatory by Isaiah Rogers (see above), only the central block, called the Sears tower, remains (Fig. 345). Crowned by a hemispherical observation turret this small building is painted grey and can therefore be identified in the confusing array of materials and architectural styles. Today it is reached from what used to be the rear (north) side. The original entry on the south elevation, situated in a pedimented pavilion projecting from the main block and enhanced by a heavy granite door frame, is now all but inaccessible to the public, because approach from the sides has been blocked by recent additions. The present north elevation opens upon an unimposing courtyard surrounded by structures of six different building periods and of as many materials and styles of architecture. The earliest surviving addition (1892; G. Leslie Nichols), a two-story edifice with a modest Panel Brick cornice, stood free of the original observatory. Northwest of that, but lower on the slope, is a three-story wing in the familiar Neo-Georgian manner of the Shepley office (1931). The meager wing immediately west of the core dates from 1954 (W.P. Hooper) and replaces one arm of the original building. Along with the Nuclear Cyclotron building (1949), this wing represents an early and unsatisfactory attempt to domesticate the imported International style by using red brick and providing sunshades.

of L-shaped buildings enfold the [illegible] placement further down the terraced hillside ensures that they do not dwarf the original tower. The earlier, enveloped in red brick, comparable to the west wing, was built in 1960 (Griswold, Boyden, Wylde and Ames); space was left between these for an ample paved court. The scale of the recent addition (1970; Cambridge Seven Associates) is monumental, with the giant beams and utility towers surfaced with rough, harrowed concrete so as to make us thankful that the building was not placed in the context of one of Harvard's Yards (Fig. 410). Isolated and set off by beautiful grounds, however, it is impressive.

Parallel with this impressive expansion of academic and laboratory facilities in the North Yard has been the drive to provide additional living accommodations for increased numbers of students. To do so has necessitated the construction of three new undergraduate houses and one apartment complex for married students as well as the purchase and conversion of existing apartment buildings for freshman dormitories. The dormitories came first with the acquisition of Hurlbut and Greenough Halls on Prescott Street in 1956 followed two years later by Pennypacker Hall at 387 Harvard Street. During the summer of 1973 work is scheduled to begin on yet another freshman dormitory on the site of Hunt Hall within the Yard.

In the South Yard the first of the new houses, Quincy House, was begun in 1958 by the Shepley office. In plan it follows the old tradition of distributing blocks of living quarters around a courtyard and of construction in brick with limestone trim, though Georgian Revival forms are here replaced by contemporary ones.

411. QUINCY HOUSE, 1958. SHEPLEY, BULFINCH, RICHARDSON & ABBOTT



Survey of Architectural History in Cambridge

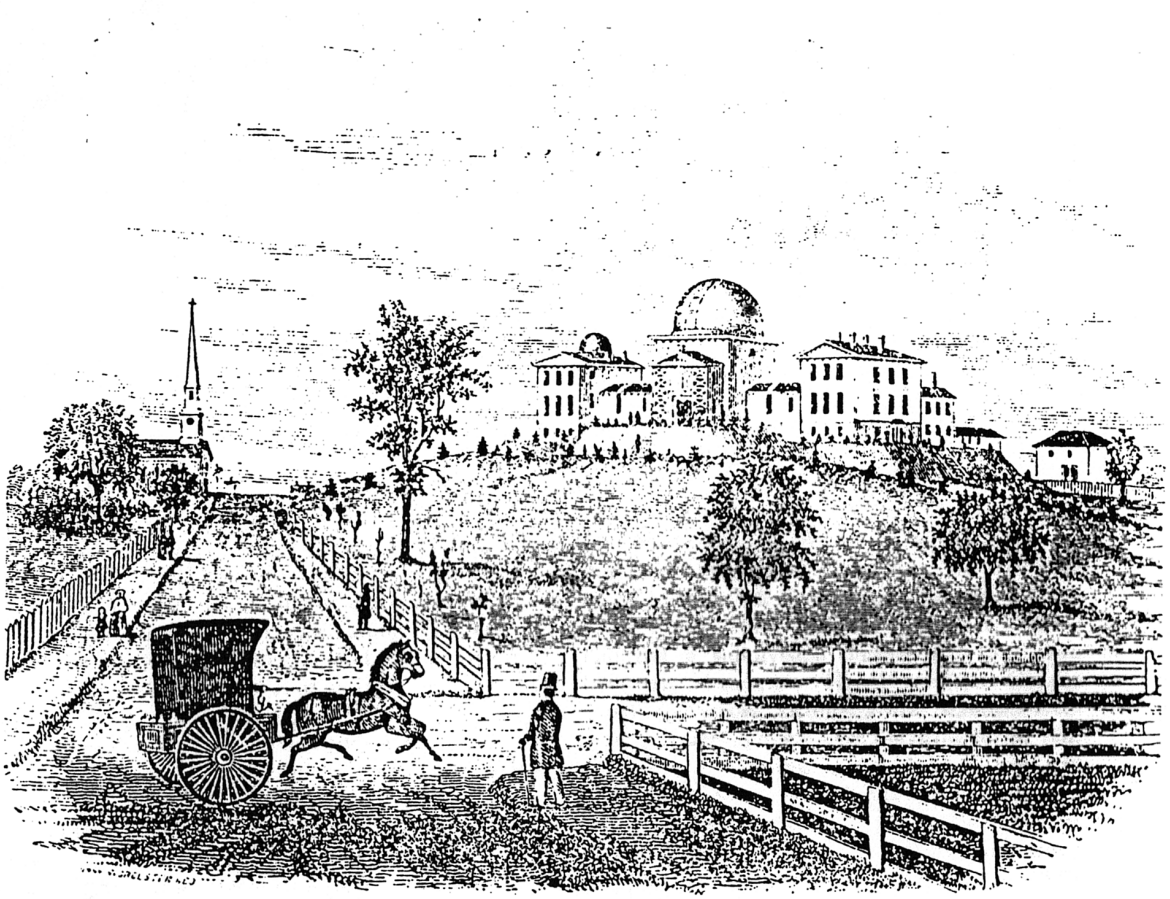
Report Five

NORTHWEST CAMBRIDGE

Arthur J. Krim

with the staff and consultants
of the Cambridge Historical Commission

Cambridge Historical Commission
Cambridge, Massachusetts
1977

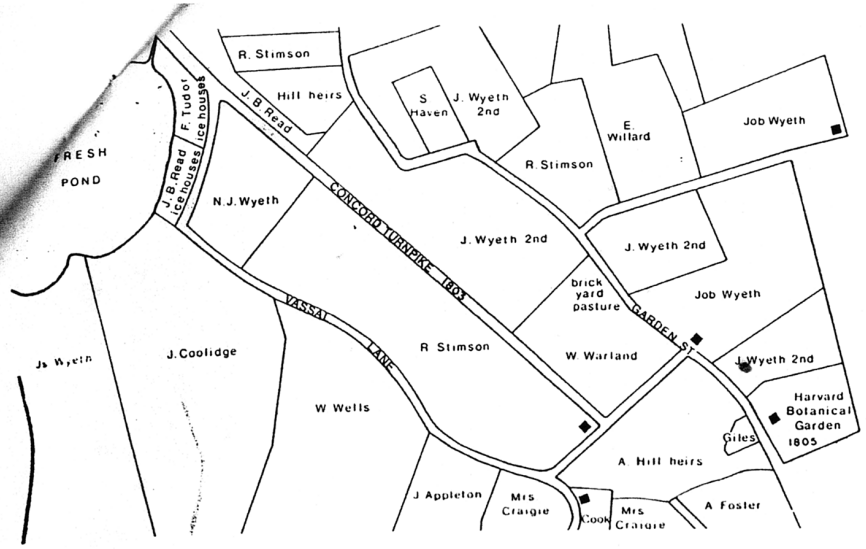


65. Observatory Hill from Concord Avenue, looking west. *Gleason's Pictorial*, 1851. Harvard Observatory (right), St. Peter's Church (left).

Beyond Old Cambridge, down the backslope of the low glacial moraine that is Avon, Observatory, and Reservoir Hills, was a vast expanse of land which was only belatedly absorbed into the 19th century suburban network. Bordered by Fresh Pond and the Great Swamp, this area remained isolated during the speculative booms which began in North Cambridge and Mt. Auburn in the 1840s. At mid-century, the area was connected by a few roads from Old Cambridge: Vassal Lane, Garden Street, and Raymond Street, which ran down the slope to the marsh. The only through road was the Concord Turnpike (1808) which crossed Alewife Brook, linking Cambridge with the western agricultural towns. Homogeneous in topography, the backslope was divided among the Brattle Street estates and Cambridge farmers with provincial agricultural interests. The dividing line was Vassal Lane, a social boundary which persisted well into the 20th century.

As in other sections of Northwest Cambridge, the backslope was at the very edge of the suburban development which had affected Cambridgeport and Old Cambridge in the early 19th century (Fig. 64). Except for the Fresh Pond ice houses, most land in the 1830s and 1840s was used for pasture or crops, and good land on the slope was still considered worth assembling for agricultural purposes, as Royal Stimson did in 1832 when he established a nursery. The rest of the farm land was owned by various members of the Wyeth family and was probably planted as market gardens or left as pasture for dairy cattle. South of Vassal Lane were the tail ends of the Loyalist estates, owned by prosperous families which had acquired the commodious Brattle Street mansions in the early 19th century. In contrast, the entire backslope had only four farmhouses, all clustered near the hill crest on Concord Avenue.

The first indications of change were felt in the 1840s. In 1845, Harvard College purchased



64. Backslope Land Ownership, 1840.

part of the Hill estate for its Observatory (Fig. 65). Next, Cambridge brickmakers, following the lead of the Charlestown entrepreneurs, began acquiring the claylands along Garden Street (see Brickyards section), and within five years had created a brickyard village on Concord Avenue.

Improvements had been made in the basic street network which tied the area more firmly to North Cambridge. Walden Street, originally a colonial rangeway, was extended from North Avenue across to Reservoir Street at Vassal Lane in 1857, and Dublin (now Sherman) Street was extended beyond Walden Street to meet directly with Garden Street at Wyeth Square (now Taylor Square) about 1860.

For a decade after the Civil War, there was no significant change on the backslope. Economic expansion did generate a speculative boom but all this ended with the Panic of 1873 (Fig. 66). The Stimson farm was divided among the brickmakers Sands and Turner and a Chelsea developer who laid out Appleton and Saville Streets as a modest subdivision in 1871. A similar effort was made along Walden Street in 1872 near the Parry Brothers brickyard, but the undesirable location brought failure and eventual abandonment.

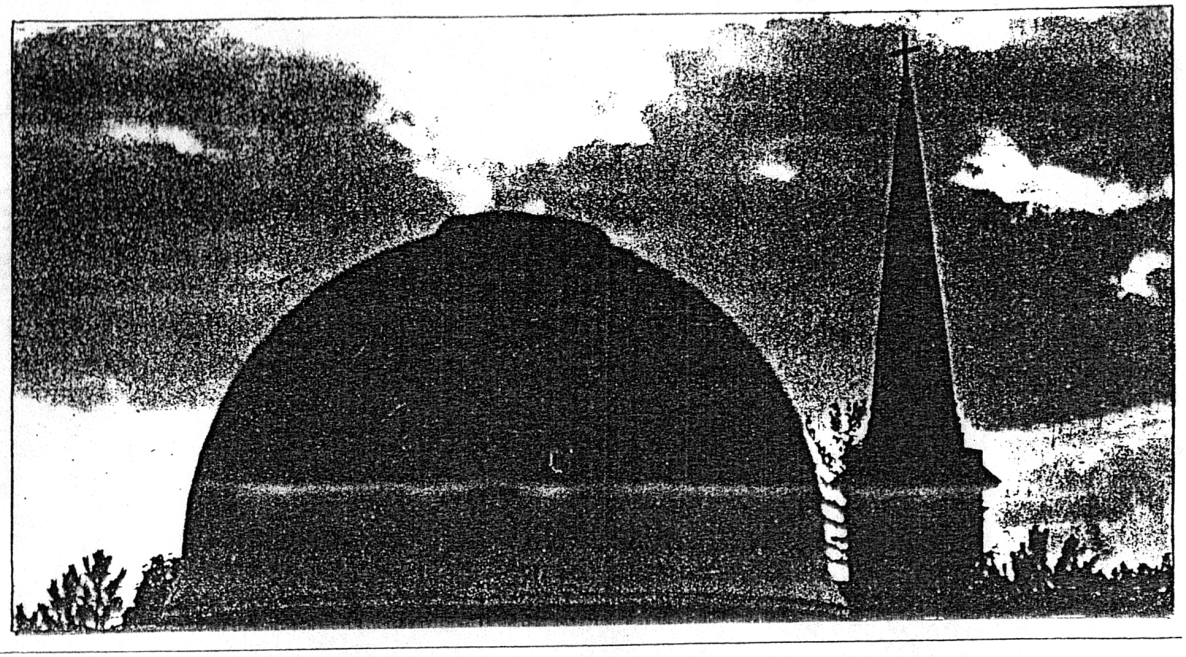
The remaining Brattle Street estates were purchased by Boston speculators, the Coolidge estate by Davis & Taylor, and the Wyeth-Gray property by Niles Brothers. These two firms laid out a subdivision during 1870-1873 with long parallel streets — Hawthorne (now Grozier Road), Lakeview, Lexington and Standish Avenues — reaching back over the brow of the hill. A cross street, called Huron Avenue, was laid out to link the two subdivisions, and a railroad station opened at the end of Lakeview Avenue in 1877. Around this isolated axis a small group of speculative houses was built in the mid-1870s and sold to Boston buyers. Once established, this cluster continued to develop despite the depression, providing a nucleus for later growth.

In the 1880s there was renewed effort at suburban subdivision on the backslope, especially on the small parcels between Vassal Lane and Raymond Street. Having no access to horse car service, this area was limited to local brickyard workers and stable keepers. To eliminate this problem, a street railroad line was projected in 1885 along Concord Avenue, Walden, Dublin (now Sherman), and Spruce (now Rindge Avenue) Streets to join with the North (now Massachusetts) Avenue car line in North Cambridge. This proposal encouraged the subdivision of Royal Avenue in 1884 and Orrin and Winslow Streets on the abandoned Cofran & Sands brickyard in 1885. The street railroad, however, was never built, and the two subdivisions remained vacant. Yet, the continued prosperity of the brickyards did promote a market for working class homes. Thus, Wiklow (Stearns) and Kildare (Fenno) Streets were laid out in 1889 and Hutchinson Street in 1890, and were quickly filled with tract dwellings.

The isolation of the backslope was dramatically altered in the mid-1890s upon the opening of an electric streetcar route through the area (see Fig. 66). Opposition by Brattle Street residents to the newly-perfected electric trolley had forced the West End Street Railway to choose an alternative route behind Reservoir Hill. Starting at Craigie Street, the trolley went up Concord Avenue, across the tail end of the Brattle Street estates to the small neighborhood at Huron Avenue, finally circling around to join the Mt. Auburn car line in front of the Cemetery. To accommodate the new car line, Huron Avenue was widened and extended in both directions during 1892-1894, providing a commodious 80 foot thoroughfare winding from Observatory Hill to Kingsley Park at Fresh Pond. During 1894 the streetcars ran only to Lakeview Avenue, but in 1896 the service was extended to Mt. Auburn Street.

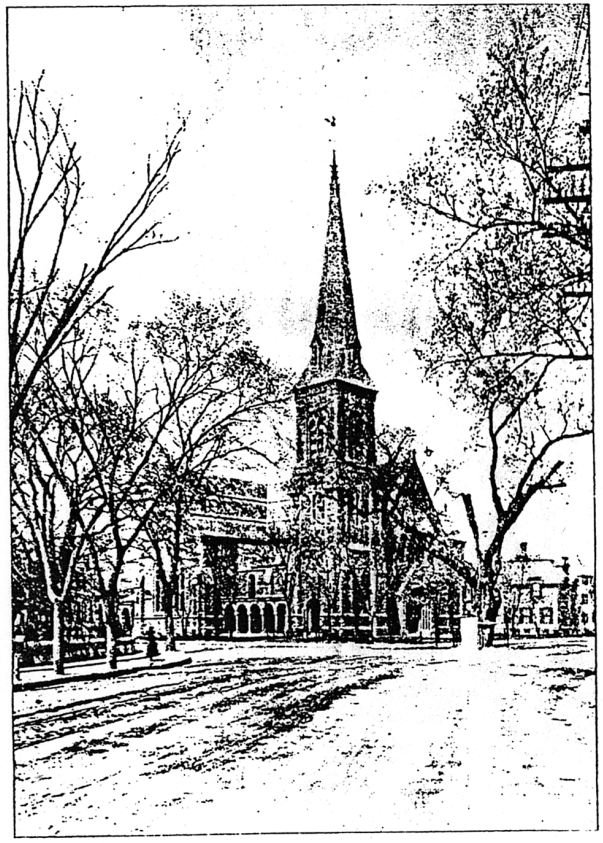
The Huron Avenue trolley line was the only streetcar route in Cambridge to be located across an undeveloped area and outside the existing street network. Real estate speculators waxed euphoric over the potential along the Huron Avenue car line. As L. M. Hannum observed in *The Cambridge of Eighteen Hundred and Ninety-six*, "A rapid growth of this section of our City may be predicted, as hundreds of acres of available land await and invite occupancy."

The effects of the trolley immediately justified this optimism by stimulating further subdivision of land and development of vacant tracts along the new route. Huron Avenue now cut through the abandoned Fayerweather subdivision, and the land was sold by its owner, the Civil War General Edward W. Hincks, and



THE SILVERY CLOUD EFFECTS VISIBLE DURING THE ECLIPSE OF THE SUN

Looking Over the Harvard Observatory Preceding the Eclipse of the Sun, When the Heavens Became a Fairyland of Silver Tinted Clouds.



Shepard Memorial Church.

CAMBRIDGE SKETCHES

BY

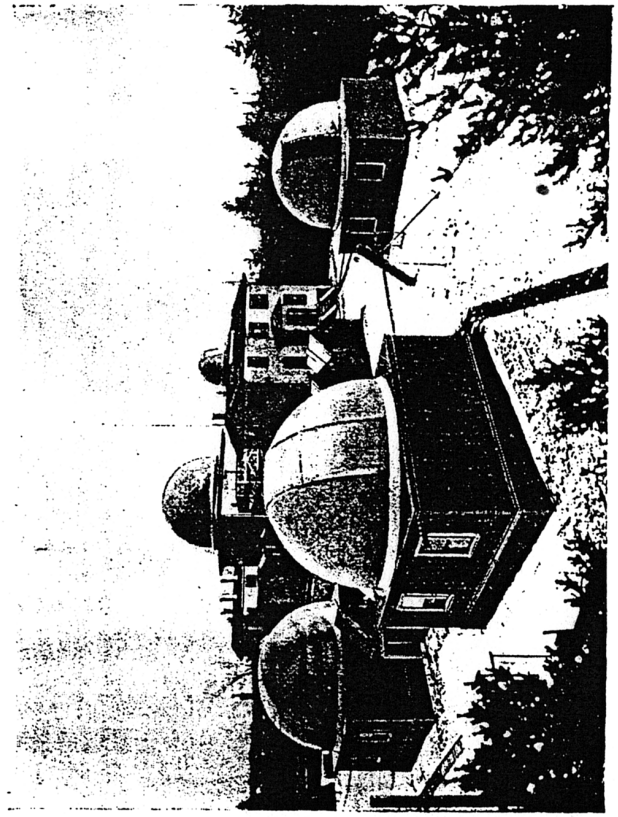
CAMBRIDGE AUTHORS,

EDITED BY

ESTELLE M. H. MERRILL,
"JEAN KINCAID."

With preface by Dr. Alexander McKenzie.

PUBLISHED BY THE
CAMBRIDGE YOUNG WOMEN'S CHRISTIAN ASSOCIATION. -1896



The Observatory — Harvard College.

Harvard Observatory.

NO department of Harvard University is more worthy of its pride than the Astronomical Observatory. Founded only fifty-five years ago, it has from the beginning been one of the foremost contributors to the marvellous growth of astronomical science during the latter half of this century.

Its beginning was humble. The fine old house on the corner of Harvard and Quincy streets, lately the home of Dr. A. P. Peabody and now occupied by Professor Palmer, was its first headquarters. The round cupola on top is a relic of this period, for it was built to support an astronomical dome to shelter the small telescope then used. The first recorded observation was on the evening of December 31, 1839. The first director, Professor W. C. Bond, was appointed the following February.

Professor Bond and his assistants worked enthusiastically with such resources as they could command. The Observatory might have struggled long with its inferior equipment, for it had aroused no popular interest, such as is necessary in order to secure funds for any costly enterprise. But when the great comet of 1843 appeared and frightened the ignorant, it proved a harbinger of good for the industrious little observatory. Everybody's curiosity was aroused. People regretted that at Cambridge there was no instrument of sufficient power to study it and other heavenly bodies to ad-

vantage. Accordingly a meeting of prominent men was called in Boston, with the result that sufficient money was raised to purchase a telescope of the largest size. In August of that very year work was begun on the foundations of the great stone pier on which such a telescope must be supported; and from that day to this, the Observatory has not lacked the best of modern equipments.

It was an exciting day when the completed telescope was mounted on Observatory Hill. It was the largest refracting telescope in the world save one. That other one was of the same aperture (fifteen inches) and had been ordered at the same time with ours for the observatory at Pulkowa. In these days telescopes of twenty-five inches and over are not uncommon. Our fifteen inch instrument would look like a pigmy by the side of the forty inch Yerkes telescope. Yet even at the present day the Harvard instrument is remarkably fine. Its clearness and defining power are unusual, and for delicate work requiring great accuracy it is unsurpassed.

Let us, in imagination, make a visit to the Observatory. We can go past its back door on the electric cars, for this locality, once so retired, has been invaded by the trolley, and only the thick hedge of evergreen trees prevents serious embarrassment from the electric lights. Our pleasanter way will be to leave the car at Garden street and walk up the hill under the grateful shade of magnificent old trees. We have the grounds on our left for some time before we reach the entrance. Inside, we find it like a park. Still walking up hill we approach the Observatory, in front of which is the pleasant home of Professor Pickering, the director.

Above and behind towers the great dome. Near

by is a smaller dome. Off to the right is a substantial brick building evidently belonging to the observatory; and on reaching the top of the hill we see that behind, in the back yard so to speak, is a little cluster of domes, each surmounting a tiny building of its own.

Of course our first desire is to see the large telescope, around whose pier the building was originally raised as a shelter. After climbing a few stairs, we find ourselves in a large circular room. Walls and ceiling are joined in one great curve,—in fact, they form the dome. This dome can be revolved on its "ball-bearings," spheres of bronze which run in a circular track around the edge of the room. We do not notice this at once, however, for in front of us rises the magic instrument. It is a ponderous mass, and we question whether so great a weight can be controlled conveniently; but we find that it moves at a touch.

There are certain difficulties in the use of so large a telescope, even if it is thus easily handled. In a large telescope, the apparent motion of the stars is so magnified that those at any distance from the pole seem fairly to rush across the field of view. Add to this the fact that the field of a large telescope is very small, and Professor Simon Newcomb may be understood when he says that with a telescope and nothing else one might spend a whole winter evening looking for Sirius, and on finding him, lose him at once and irrevocably. This difficulty of finding and keeping stars is obviated by the "equatorial" mounting, as well as by the "finders," telescopes of low power and large field attached to the tube. When a star is found, the instrument can be clamped so that it can be moved only in one direction—that of the star's apparent

motion. As fast as the star leaves the field, therefore, a touch of the instrument will bring it into view again.

Obviously, however, if the star's apparent motion were very great, it would take most of the observer's attention to keep it in the field. Any refined observation would thus be rendered impossible. To remedy this difficulty, clock work is attached to the instrument. This is so arranged that the motion of the telescope is exactly equal and opposite to that of the earth in rotation. The observer is thus enabled to study and measure at his leisure, without a thought but that instrument and star are alike stationary.

When equipped with the best of mounting and the most perfect of clock work, with stable foundations and adequate protection from the weather, the telescope might seem complete. But it is poised thirteen feet above the floor. The eye piece has a sweep of ninety degrees and is far out of reach most of the time. Without some means of getting to it, the instrument would be practically useless. It was for Professor Bond to meet this difficulty, and he devised the observing chair which is still in use. In appearance it is rather a formidable looking piece of machinery, but it is simple in use. By its means the observer can convey himself easily and rapidly to any desired part of the dome.

It may be well for us to remind ourselves that an astronomer would consider it a waste of time simply to sit and look through the tube of the telescope. Unless he wants a half hour's amusement, he will attach to it one of the little instruments which are shown us, for measuring minute distances and angles, or for measuring or analyzing light.

The Harvard telescope is much used for measuring the comparative light of stars, or other heavenly bodies. Photometry, as it is called, is a specialty at the Harvard Observatory. Many photometers have been devised here, each adapted to some particular kind of work. A large variety of these is used with the large telescope. If none of the photometers in use seems to be exactly what is wanted for a particular piece of work, Professor Pickering or one of the staff invents a new one. The first one made was called A, and for a long time each new one received the succeeding letter, until the alphabet was exhausted. Now there is no special designation.

There is another instrument much used with the great telescope and that is the micrometer. This is a device for measuring very small distances and is much used in the study of double stars.

Before leaving the dome, we must read the list of donors printed on the walls. We ought also to step out on the balconies from which we have a fine view of Cambridge and surrounding towns by day, and by night an unobstructed view of the heavens.

Down stairs is another instrument of the very greatest importance,—the meridian circle. This is a telescope of fair size, large we should say if we had not just come from the fifteen inch equatorial. Its peculiarity is in the mounting. It turns on a rod pointing east and west, the ends of which are supported on heavy stone piers. It can therefore revolve freely in the plane of the meridian. Any star may be observed just as it crosses the meridian, but at no other time. Attached to the instrument is a large circle, very delicately graduated. The exact angle at which the telescope is turned to observe any star, is shown on this circle. Thus the star's height above the horizon is obtained, and

from this is obtained directly the declination, or distance from the celestial equator. The time of a star's transit is signalled, by means of an electric transmitter in the operator's hand, to a chronograph which records the beats of the astronomical clock in the basement. This chronograph was invented by Professor Bond and was very quickly adopted in other observatories. The time observed gives the star's right ascension which corresponds to terrestrial longitude, as declination does to terrestrial latitude.

The meridian circle is the most accurate means of obtaining the exact position of stars. These positions are recorded in the star catalogue. It is also the most accurate means of obtaining true time. Until very recently Boston obtained its true noon from this observatory. Now, however, the time is telegraphed daily from the observatory at Washington, and the Harvard time service has been discontinued.

A beautiful little brass instrument in the same room, not more than three feet high, is a transit instrument made in Russia. It can be used, like the meridian circle, for obtaining the time of meridian transit of stars, but not for declinations, as there is no circle attached to it.

The astronomical clock is in the basement, and is interesting to look at with its three dials, one for each of the three hands. It is regulated to sidereal time; that is, it makes its round of twenty-four hours between two successive passages of the same star over the meridian, thus gaining about four minutes a day over solar time. This clock is, perhaps, the most important instrument in the observatory, for it is essential to the proper use of nearly all the other instruments. A fine new clock

has been presented to the Observatory recently which will undoubtedly make some of the work easier, possibly even more accurate.

On our way out of this building we must step into the library for a moment. Here are between seven and eight thousand bound volumes and nearly ten thousand pamphlets. A considerable proportion of these books and pamphlets contain records of observations made at different times all over the world. The Harvard Annals alone fill a long row of thick quarto volumes. Those dry looking pages of statistics contain many interesting secrets for future discovery.

Now let us see what are the other buildings. A good sized wooden house at a little distance, serves as a shop, and there are a number of small buildings scattered about, most of them domed. Most of these contain photographic instruments. Off to the right, a little way down the slope, is a brick building used for the storage and examination of photographic plates.

Within a few years, photography of the heavens has come to have a leading place as a means of astronomical reseach. At Harvard, several telescopes are kept busy with photographic work. The advantages of this method are obvious. Unlike the human eye, so soon wearied, the photographic plate sees the more, the longer it is exposed. There is reason to believe that if a telescope could be kept pointed night and day, with perfect accuracy, upon any source of light anywhere in the universe, it would finally record it on the sensitive plate.

Nearly all kinds of astronomical work usually accomplished by visual observations can be done more or less admirably, or can be assisted greatly, by the photographic telescope. For instance, the

comparative light of stars can be studied from photographic plates. The meridian photometer is an ingenious device for doing this in the most convenient manner, and the results are surprisingly accurate.

Again, photography is an easy means of obtaining excellent charts of the heavens. These photographic telescopes bring into view stars that cannot be seen by the eye, even with the most powerful telescopes. Thus we have a record of every star in the heavens, down to the faintest of which we can be made aware. The positions of the stars cannot be so accurately determined by these charts as by the meridian circle. But they are accurate enough for some purposes and, what is most important, they give us a record of thousands of stars that never could have been observed singly. The plates of the same region taken with the same telescope at different times may be compared and any changes noted. The new star in Auriga, which drew so much attention two years ago, was found to have printed itself upon one of the Harvard plates weeks before its discovery.

One of the most important uses of photography is in spectrum analysis. It is by means of the spectroscope that the most important advances in modern astronomy have been made. The rainbow-colored band, crossed by its tale-telling black or bright lines, has let us into the physical secrets of other worlds to a marvellous extent. Here at Harvard the spectra are photographed by placing a prism in front of the object glass of a photographic telescope. Of course the prismatic hues are not reproduced on the plate, but the lines are very distinctly marked, and can be studied at leisure.

The most interesting of all the photographic telescopes is the new Bruce telescope. This has an aperture of twenty-four inches, and is the largest photographic telescope yet made. The glass is by Alvan Clark of our city. This telescope has been in use now for more than a year, and it reveals stars that never have been seen by the eye, even in the largest telescopes.

It is designed to send the Bruce telescope, eventually, to the station at Arequipa, Peru. This station is an integral part of Harvard Observatory. Situated high in the Andes, it possesses unrivalled meteorological advantages. The air is wonderfully clear and pure. Add to these natural advantages the fact that it is almost the only observatory in the southern hemisphere, and its importance will be appreciated. The Bruce telescope will be an important addition to its facilities.

The photographs are stored in a commodious building where a gifted woman, Mrs. Fleming, with her assistants examines the plates. She is in charge of this branch of the work at the Observatory, and publishes frequent articles in the astronomical journals.

We have not seen everything there is at the Observatory, but we have seen what is most interesting and important in the equipment. If it is one of the long summer afternoons and we have made an early start, there will still be time to go over to the Botanic Gardens, which lie just across the street, almost under the shadow of the great dome.

ERRATUM.

At the top of page 140, omit the sentence beginning "The meridian photometer." It is true that stellar magnitudes are conveniently and accurately derived from measurements on photographic plates. The meridian photometer, however, is not a photographic instrument, but is used for the visual determination of stellar magnitudes. It is an important part of the equipment of the Observatory.

Society
for the Preservation
of New England
Antiquities

Conservation Center
Lyman Estate
185 Lyman Street
Waltham, Massachusetts 02154
617 891-1985

December 20, 1989

Mr. Nathan Hazen
Atmospheric Research Project
Harvard University
ESL 40 Oxford Street
Cambridge, MA 02138

Dear Nathan,

Here is the material on the Sears Tower and Isaiah Rogers that we have found in the SPNEA archives. I found the description of the interior of the building in 1896 in Cambridge Sketches particularly interesting. A great interpretative narrative. I will continue to look for more information about Isaiah Rogers, particularly his work in Massachusetts.

With best wishes for the holidays.

Sincerely,

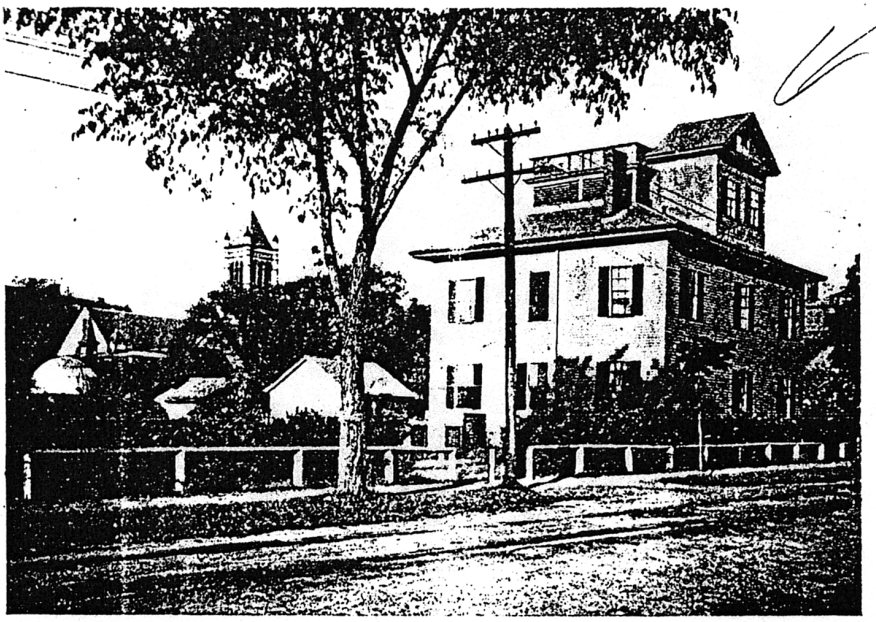
Andrea M. Gilmore

Andrea M. Gilmore
Architectural Conservator

AMG/nh

Enc.

The Astronomical Laboratory



Since 1903, Harvard University has maintained an astronomical laboratory in the substantial wooden building in Jarvis Street, on Holmes Field near Massachusetts Avenue. The laboratory, which is in charge of Professor Robert W. Willson, is unique in that Harvard there provides, it is believed, a more complete equipment for instruction in descriptive astronomy than is found in any other institution of learning in the world. The Harvard Observatory, with its extensive resources and large corps of workers, of course makes many more observations and takes an infinite number of photographs. Its work, however, is in the field of research and it gives no instruction to students. The laboratory, therefore, is the place where undergraduates learn the rudiments of astronomy by experiment and not solely by textbook; and from the growing attendance, it is felt that students are coming to realize its value in the department of astronomy.

It has been said that the laboratory is unique, and it is to be remarked, also, that the building which stands four-square, does not lack in interest from an historical point of view. This solid house of two stories was the original Agassiz Museum, and was located formerly near Lawrence Hall on the site of Hemenway Gymnasium. During its 60 years of existence it has been a wanderer, and besides having occupied various sites in the vicinity of Holmes Field, it has served a variety of purposes.

Thanks to Professor Frederic W. Putnam, honorary curator of the Peabody Museum, we have an authentic record of the movements of this building and of its various uses. The facts here presented were compiled by Professor Putnam for the 100th anniversary of the birth of Louis Agassiz, which came on May 28, 1907.

This house, built, as has been stated, for the exhibition of Professor Agassiz's collections, is shown in the accompanying photograph, just at the right of the church, then a place of worship for the Baptists near Harvard Square and now standing at

Looking Northeast from Harvard Square in 1857, Agassiz's Museum in the Distance.

the corner of Massachusetts Avenue and Roseland Street and owned by the North Avenue Congregational Society. The buildings at the right of the picture are plainly recognizable as Massachusetts and Harvard Halls, and the former College fence and the row of posts which guarded the deep gutter, are easily distinguished. At the left of the picture, under the shadow of the church eaves, is the home of Oliver Wendell Holmes. Agassiz's Museum, as it was called, stood on this spot from 1850 to 1860; when the first section of the present Museum of Comparative Zoölogy was built, the Agassiz building was moved to the site now occupied by the Peabody Museum and was remodelled into living rooms for Agassiz's assistants and students. It soon took the name of Zoölogical Hall. In 1876, the building was moved again, this time to Holmes Field, to a spot near where the present building of the Mining Department is. In its new location, the building was used briefly for a College hospital. Its next migration was to its present site in the northwest corner of Holmes Field and its next usage was for social activities.

Until 1888, for several years, the Hasty Pudding Club occupied the upper story; and during most of that time, the large room on the ground floor was used by the Institute of 1770, and the long narrow room, by the Pierian Sodality and occasionally by the Glee Club. In the early nineties, the Glee Club was using the large room on the second story, then given up by the Hasty Pudding. When the social clubs abandoned the building, the Athletic Association took it; and when it had served their purpose for a time, it again entered the educational field as classrooms for students in the Architectural Department. With the completion of the Nelson Robinson, Jr., Hall, the building fell into the hands of the students in astronomy, where it still is. Professor Willson says that he too may remove from the building eventually and when he does, he looks forward to such comfortable quarters as have fallen to his predecessors in this historic house.

From 1857 to 1860, Professor Putnam, then an assistant to Professor Agassiz, occupied a room in the left hand corner of the building on the ground floor, which is now used as an entry; Professor Putnam's room from 1860 to 1864 was in the same corner of the second floor, a space now occupied by Professor Willson's office.

Elementary astronomy was taught in the University with some regularity during the last century; but previous to 1891, comparatively little instruction in the science had been given for some years. A generation or more ago, Professor Lovering had a course, for a few terms, in astronomy, optics and acoustics. This course, as far as astronomy was concerned, was limited in scope; and it cannot be said that any adequate teaching in this subject existed until the laboratory was established.

Besides the three or four-score undergraduates who are taking courses at the laboratory, Professor Willson now and then has a special student—a man of maturer years—who wants to learn astronomy as applied to navigation, exploration or the requirements of United States Coast Survey work. Two such men recently have been Donald B. MacMillan, Bowdoin, '98, who was with Peary on his latest polar expedition; and Dr. A. Hamilton Rice, '98, who has done considerable investigating in South America.

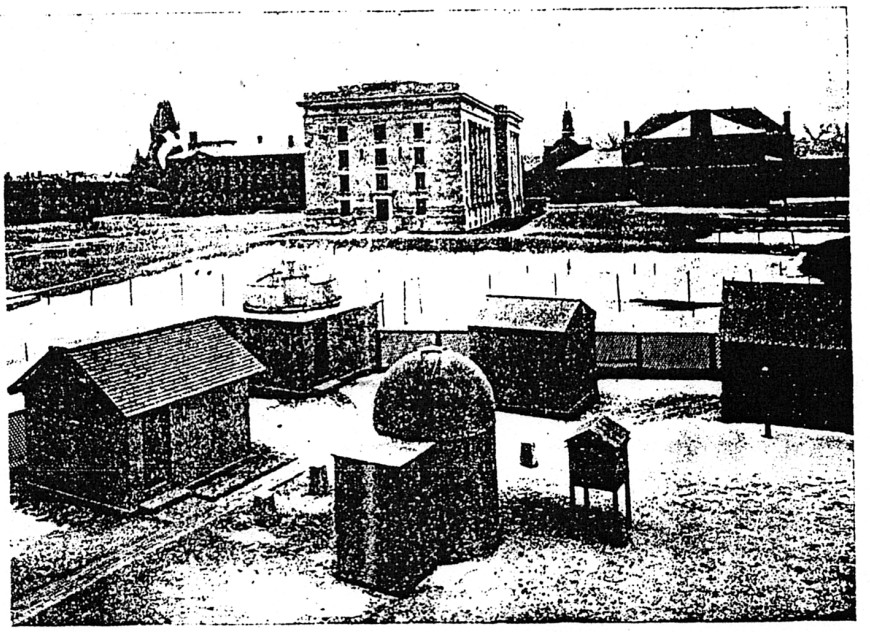
While most of the students in the laboratory take the courses incidentally and as a part of their general work towards the bachelor's degree, about one man a year is found who means to make this science his life work; and since the laboratory was established, several men have gone out to take places in various observatories. Professor Willson finds a demand for technical men thus trained, and he says that the demand is increasing more rapidly than he can supply it.

A pertinent and timely illustration of the knowledge to be gained in the astronomical laboratory is shown in the presence of Professor Willson and several assistants at the Aviation Field at Squantum last summer, where by the use of sextants, on the field, and transits at more distant stations, they were able to estimate the heights attained by the aviators at various points in their flights.

It is not surprising that the astronomical plant under Professor Willson's direction has come to be known as "Willsonville." In a measure it is as sequestered as the Harvard College Observatory. With its main building in the foreground and its row of shelters in the back yard, so to speak, it is a little village by itself, and is regarded by the layman with something approaching awe. Its surroundings are surely quiet enough for study, for Jarvis Street, still a private way, is rarely frequented by any body except pedestrians and by very few of them.

On the first floor of this four-square building are, besides an entry, and a shop for the repair of instruments, the clock-room and the elementary laboratory. The clock-room clicks with sounds like those heard in the shop of a maker of timepieces. It has only three clocks, but they are large and impressive and active. The most noteworthy, perhaps, is a sidereal clock, which keeps the time of the stars instead of the sun, the sidereal day being four minutes shorter than the mean solar day, and the sidereal year, therefore, one day longer. This instrument has three dials, that for the minutes being slightly larger in diameter than those for the hours and seconds. Another clock is connected with three chronographs in the transit shed behind the laboratory building. It may be connected with two other chronographs in the clock-room, but as a rule these latter recorders are used, one for experiments in personal equation, and the other for showing records of meridian circle observations. The third clock is an everyday affair for telling everyday time.

In the elementary laboratory, the students get their first instruction about the heavenly bodies, and there, are to be found on study tables a score of celestial globes,



The "Back Yard" of the Astronomical Laboratory.

for the use of which the finishing schools of years ago were accustomed to charge an extra fee.

A lecture-room, seating 100 men is on the second floor; and in this room, which was used by the Pudding Club for their theatricals, and later by the Glee Club for rehearsals, are facilities for stereopticon talks. Professor Willson's office takes up the remaining available space on the second floor; and from near his room, are stairs leading to the platform on the roof whence naked-eye observations or those with small movable telescopes may be made.

The outdoor equipment is quite as interesting as that inside the laboratory. A series of shelters behind the main building contain a variety of valuable instruments. First comes the shed for a meridan circle, which is used for determining latitude; next, in another shelter, is a zenith telescope for the same purpose. In the third shelter is a 7 1-2 inch equatorial telescope, given to the laboratory by George R. Agassiz in 1905. This instrument, which is operated by an electric clock in such a way that it moves uniformly with the motion of whatever heavenly body is being observed, is used on Monday and Wednesday evening each week in term-time by students in astronomy, for general observations. Its use is not confined, however, to College students, for frequently school pupils and members of clubs enjoy the experience of examining the heavens at close range.

In the succeeding shelter is an almucantar, a telescope, the supports of which float in mercury. This particular instrument is the original telescope set up by Dr. S. C. Chandler of Cambridge. By means of it some remarkable observations have been made; it is used mainly by advanced students. The three transit instruments, connected to chronographs, are housed in the fifth shelter.

The instruction, under Professor Willson, falls into three full courses and four half courses. One full course is given in

elementary astronomy, with lectures and laboratory work, and includes consideration of the physical qualities and movements of the earth, sun and moon, the theory of the telescope, spectroscope and spectroheliograph, the motions of the stars and planets, and of comets and other waifs in the heavens. Another full course deals with transit work and the comparison of sidereal and solar time. The third full course includes a variety of matters especially for graduates. Two of the half courses are elementary in character but differ in that one is intended for engineers and the other for navigators. The other two half courses deal mainly with orbit computation.

Professor Willson conducts his laboratory with the help of Dr. John C. Duncan, L. S. Flint and William Hunt, the first-named an instructor, and the two latter, assistants. All the lectures are given in the forenoon and laboratory work follows in the afternoon. An atmosphere of diligence and interest pervades the building; and in fact it may be called a work-shop, in which many of the ingenious appliances in use are the handiwork of Professor Willson or of his busy band of embryo astronomers.

DEATH OF FRANCIS C. LOWELL

Francis C. Lowell, '76, LL.D., a Fellow of Harvard College, and Justice of the United States Circuit Court of the first circuit, died suddenly last Monday at his home in Boston. Judge Lowell had not been in good health for a year, but he was thought to be improving, and his death was not expected even by the members of his family.

He was born in Boston, January 7, 1855. He graduated from College in 1876, studied at the Law School for two years, and then began the practice of his profession in Boston. From 1889 to 1891, inclusive, he was a member of the Boston Common Council, and for four years, from 1895 to 1898, inclusive, was in the Massachusetts House of Representatives. From 1886 to 1895 he was an Overseer and in 1895 was elected a Fellow. In 1898 he was appointed a justice of the United States District Court, and in 1905 was promoted to the Circuit Court. In 1882 he married Cornelia Prime Baylies, daughter of Edward Lincoln Baylies, '50. Judge Lowell was a cousin of President Lowell.

NOBLE LECTURES.

Rev. John Neville Figgis, Litt.D., Honorary Fellow of St. Catharine's College, Cambridge, Hulsean Lecturer for 1908-09, a member of the Community of the Resurrection, is giving a series of lectures on the William Belden Noble Foundation. These lectures will be delivered in the Fogg Museum at 8 P. M. on the days mentioned. The general subject is "Civilization at the Cross-roads." The first lecture was given last night. The dates and titles of the remaining lectures are as follows:

Mar. 9—The Moral Crisis.

Mar. 14—The Challenge of the Cross.

Mar. 16—The Christian Fact.

These lectures will be open only to members of the University.

AGASSIZ MEMORIAL ADDRESS

Sir John Murray, K.C.B., F.R.S., LL.D., S.D., one of the pioneers on "The Challenger" expedition, will give a memorial address on "The Life and Scientific Works of Alexander Agassiz," in Sanders Theatre, on Wednesday evening, March 22, at 8 o'clock. This lecture was postponed from February 14 on account of Sir John Murray's illness. It will be open to the public.

The following additional men from the class of 1911 have been elected to the Phi Beta Kappa Society: Durr Friedley, of Indianapolis, Ind.; Paul Mariett, of Springfield, Vt.; Jay Morrison, of Billings, Mont.; and Oswald Ryan, of Indianapolis, Ind.

Mar 9/11 1909

Harvard Observatory (Isaiah Rogers, 1843–1851), isolated on its hillside site north of the Yard. Many structures now surround and obscure the original octagonal observatory.

is related to the Bulfinch tradition but with stylistic indications of the approaching Greek Revival (fig. 38).[41] It has in common with University Hall the use of twin entrances separated by a middle portion whose long, round-headed windows contrast with smaller rectangular fenestration elsewhere, as well as variation in floor levels and a chapel as the prominent center space. Quite dissimilar to University Hall, however, is the manner in which the pedimented center of Divinity Hall breaks free of the block. The arched windows illuminate a chapel whose interior was completely refitted by A. W. Longfellow in 1904 with golden oak paneling that is ill-suited to the exterior.[42] As the result of later developments within the North Yard, Divinity Hall has become the focus around which some of the most adroit site planning at Harvard has been done.

North of Harvard Square but some distance from the North Yard is the Harvard Observatory. A temporary observatory had been improvised in the Dana-Palmer house in 1839 after President Quincy persuaded William C. Bond to bring his equipment and become "Astronomical Observer to the University," but it was four years later before the president, taking advantage of a swell of interest in astronomy caused by the Comet of 1843, was able to procure funds to build a permanent observatory.[43] The new building, begun from designs by Isaiah Rogers, followed a familiar Palladian scheme with a central section and end pavilions connected by low wings (fig. 39).[44] The geometric formality of the design with its early and important octagonal dome was enhanced by broadly overhanging cornices. Such compartmentation suited a building serving varied activities. Clearly expressing its purpose by the dome set on a low attic above the pediment, the central

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block of brick housed the observatory; the east wing of wood was the residence of Professor Bond; and its counterpart on the west, added in 1851, contained classrooms and library. Located at the crest of Observatory Hill, near the site of the old summer pavilion on the estate of the flamboyant Tory John Vassall and some fifty feet above the general level of Cambridge, the building with its three pediments and formal mass must have originally presented a striking visual composition. Unfortunately, both wings were later removed to permit enlargements, the one on the east in 1954 and the other in 1960. The old observatory, which was the scene of numerous important discoveries, is now so hedged in by later buildings that it is difficult to find.

A Biographical Dictionary of Architects in Maine

ISAIAH ROGERS
1800-1869

Isaiah Rogers has had the posthumous misfortune to have almost all of his finest buildings destroyed. His major works are therefore almost unknown today in spite of the fact that he was one of the most famous and important American architects from the mid-1820s until after the Civil War. He was born on August 17, 1800, in Marshfield, Massachusetts, where his ancestors had settled in 1647. He remained on his family's farm until 1817, when, encouraged by Edward Preble Little, an older relative by marriage, he foresook the plow and walked to Boston to learn the builder's trade from the housewright Jesse Shaw.[1] From 1822 until he commenced independent practice in 1826, Rogers trained with the Boston architect Solomon Willard. Rogers' first known connection with Maine was a personal one, for on October 15, 1823, he was married by the eminent Universalist clergyman Hosea Ballou to Emily Wesley Tobey, daughter of Lemuel Tobey of Portland.[2] However, since the wedding was performed in Boston, we do not know whether the bride resided there or in her native Portland.

In 1827 Rogers' first major building, the Tremont Theatre, was built in Boston. The facade of gray Quincy granite with white "Eastern" granite pilasters and cornices from Hallowell was rated in 1836 by the architect Arthur Gilman as "the most perfect piece of architecture in Boston."[3] Rogers made it a practice to inspect quarries supplying material for his buildings, so it seems likely that he visited Hallowell in 1827.

Rogers' second important work, Boston's masterly Tremont House of 1828-29, set a new standard for hotel design and is generally regarded as having initiated American leadership in that field (Figure 1). It was unsurpassed for the dignity of its exterior and the convenience of its plan, the latter ingeniously masking the irregularity of the site. The publication in 1830 of William Havard Eliot's detailed book, *A Description of Tremont House*, brought the hotel and its architect almost overnight national fame.

It is certainly not astonishing, considering the celebrity of the Tremont House, that the forty-two leading Bangor citizens who incorporated as the Bangor House Proprietary on February 26, 1833, should have applied to Isaiah Rogers for the plans of their proposed hotel (Figure 2). During 1833-34 Richard Bond (1797-1861) was Rogers' junior partner, although he was slightly his senior in age, but documentary evidence confirms Rogers as the designer of the Bangor House.[4] Although Rogers designed the Bangor House, his one major work in Maine, its erection was undertaken by the local team of Charles G. Bryant (1803-1850) and Lyman Seavey (1807-1886), who may have made minor changes as the work progressed to its completion in December of 1834. Rogers had left Boston for New York City in 1834 to design and superintend the erection of a great hotel for John Jacob Astor, initially to have been called the Park Hotel but ultimately named the Astor House. That important commission was the probable reason why Rogers did not superintend the construction of the Bangor House, which opened on December 24, 1834.

Basically, the Bangor House plan was a reduced version of the Tremont House plan reversed from left to right (Figure 3). The earlier hotel had a 160-foot facade and elliptical corner bays entirely of granite with brick wings measuring 110 and 84 feet in length. There were 180 rooms in the Tremont House. The Bangor House was entirely of brick above the granite basement and originally measured 112 by 92 feet with a total of 115 rooms. The Greek Doric portico was wooden instead of granite with monolithic columns, as in the Tremont House. The Tremont House and Bangor House exteriors also differed in several minor respects. The portico frieze of the former had triglyphs and metopes, whereas the latter had Choragic Monument of Thrasyllus wreaths like those Rogers used on his Suffolk Bank entablature in Boston. The Tremont House attic was blind, whereas the Bangor House had low rectangular attic windows, originally screened by ornamental grilles, in its entablature frieze. The Bangor House had a low triangular wooden parapet with a central acroterion crowning its four middle front

Figure 1. The Tremont House, Boston, c. 1830 view (Courtesy of James B. Vickery, Bangor).

bays, whereas the Tremont House had a wooden stepped blocking course in the analogous position. Much more significant than these minor variations was the way in which the acute angle where the streets intersected was masked by an elliptical bay in both buildings.

Contemporary descriptions dwelt upon the convenience of the Bangor House plan, the costliness and luxury of the furnishings, and the spaciousness of the 27 x 50 foot dining room. A 60 foot long brick stable and a 70 foot long wooden "chaise and carriage house" served the hotel.[5] Portions of the lengthy description in the *Portland Evening Advertiser* of December 29, 1834, later appeared verbatim in Charles Gilman's description of the Bangor House in the August, 1837 issue of the *American Magazine of Useful and Entertaining Knowledge*. On September 30, 1834, the *Boston Evening Transcript* printed a letter from Bangor dated September 27th in which the anonymous correspondent wrote:

> The new Hotel . . . is not only an admirably public spirited undertaking, for which the proprietors deserve great credit, but really a splendid ornament of the town—the most of an architectural decoration which has yet been erected. In its general outline it resembles the Tremont House, and wants indeed little but the fine Quincy Granite, and especially the elegant piazza (the wooden Bangor House portico was apparently not yet in place) . . . to make it another such palace and paradise for travellers.

The author of a "letter from Bangor" in the *Portland Evening Advertiser* of March 19, 1835, commented, "The Bangor House is one of the most genteel public houses in New England, exceeded by none in this respect except by the Tremont in Boston, on the plan of which it was constructed; —it is not, however, so magnificent in its proportions, so elegant in workmanship, or so excellent in material—being of brick; but is as well furnished and as well arranged. It is said the furniture alone cost twenty-five thousand dollars.". The letter mentioned Brussels carpets, marble mantels, hanging lamps, Pierpont grates, and Nott stoves. However, the impressive effect of the very heavy silver forks was said to have been somewhat spoiled by the boorish table manners ascribed to some of the guests.

In 1865 the lowering of the Union Street grade led to alterations in which Isaiah Rogers played no part. The *Bangor Daily Whig and Courier* for December 11, 1865, reported the completion of "extensive alterations and repairs . . . going on for the past four months . . . " The lowered street grade fully exposed the basement, and the main entrance was moved to Main Street, the lowered Union Street entrance becoming the ladies' entrance. The office and parlors on the main floor became guest rooms, and the Main Street basement was fitted out with an office, toilet room and barber shop, coat room, reading room, gentleman's parlor, and bar room.

During 1838 Rogers made two trips to Maine in connection with granite for his Dutch Reformed Church at Lafayette Place and Fourth Street in New York City, and in 1839 he made another trip for the same purpose. Excerpts from his diary for those Maine visits appear as an appendix to this essay.[6] The diary also provides documentation for the architect's other Maine commission, alterations to Samuel Farrar's House on Court Street in Bangor[7] (Figure 4).

On Thursday, July 2, 1846, Rogers "Received letter from Bangor about the plan of alterations of Mr. Farrar's house." There are no further references to the matter in the diary entries until August 12, 1846, when Rogers recorded that he "Wrote letter to Bangor to Mr. Farrar to let him know I intend to start for Bangor on Friday next." In the meantime, Rogers had a letter from "Mr. Sparrow of Portland" on July 23rd, and on July 24th Rogers "Wrote letter to Mr. Sparrow of Portland about circular (illegible) for a store." Sparrow was almost certainly the architect Thomas J. Sparrow (1805-1870).

On Friday, August 14, 1846, Rogers "Started for Bangor at 5 o'clock in the *Penobscot*. Paid fare $3." The following diary entries outline this trip:

Figure 2. The Bangor House, c. 1835 view (Courtesy of James B. Vickery, Bangor).

August 15, 1846.
On board of steamer *Penobscot*. Arrived at Owl's Head and landed passengers and at the different landings on the river. Arrived at Bangor about 3 o'clock. Shifted my dress and then went to see Mr. Samuel Farrar about his house. Had a long conversation about his arrangements. Took tea with his family. Spent most of the evening and returned to Bangor House. Paid meals on board of the boat 75 cents. Boots 12½ cents. Felt much improved in health by my journey and found my appetite very much improved.

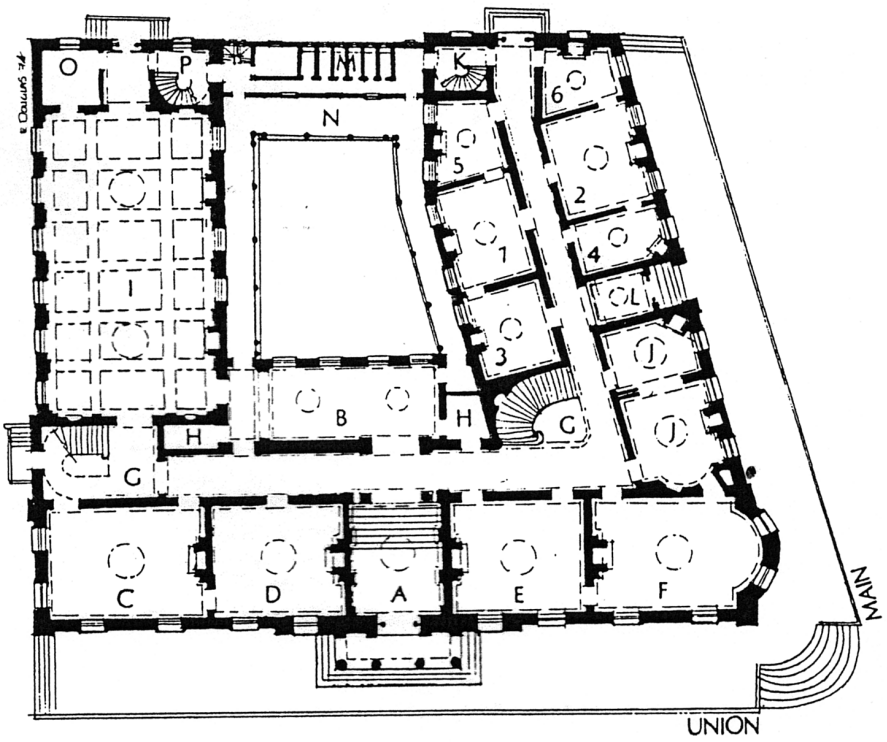
August 16, Bangor.
Felt some better. Health improving. Good appetite. Paid barber 6½ cents. Stayed about hotel most of the day. Very warm all day. In afternoon went and took a walk to see the new bridge in course of erection where the old bridge was carried away last spring by the freshet. Rode around the city with Mr. Pinder. He had a very fine horse.

August 17, Bangor.
Went to Mr. Farrar's and took the following dimensions to make a plan for some alterations. (A largely illegible sketch plan follows. There were a large attached woodhouse and an offset stable at the left of the house.) At 11 o'clock started in the *Penobscot* steamer for Boston. Paid fare at Bangor House $2.50. Paid sundries 12½ cents. Paid fare on board of boat for Boston $4. Paid meals 50 cents.

On August 25, 1846, in Boston Rogers "finished outlining plans for Mr. Farrar's house." On August 27th Rogers "went to Tremont House and saw Mr. Farrar. Consulted about his house in Bangor. Settled about the plan." On August 31st in Boston Rogers "Finished outline of Mr. Farrar's house in Bangor. Figured plans of house for alterations at his house at Bangor." On September 3, 1846, "Mr. Farrar and lady called on me in Howard Street and got some more explanations about his plans. Seemed to like it much. Had his house struck by lightening a few days since." Rogers' north wing of the house replaced the woodhouse. It is not known what other changes occurred. The last reference to Maine in any of the diaries is in the entry for September 5, 1846, when Rogers traded horses with Mr. Pinder of Bangor: "Gave Mr. Clapp $10 to pay the passage of horse to Bangor and he to credit me the balance. Wrote letter to Mr. Pinder at Bangor that I would send my horse next steamer."

On July 23, 1862, Isaiah Rogers was appointed Chief of the Bureau of Construction in the U.S. Treasury Department, and from June 30, 1863, until his resignation on September 30, 1865, he was Supervising Architect of the Treasury Department. Rogers' plans for a new U.S. Custom House at Portland were completed before August 26, 1864, the date of newspaper advertisements soliciting bids for construction. The *Portland Daily Press* reported on November 5, 1864, that the contract has been awarded to Messrs. Sargent, Whidden and Coburn of Boston for about $140,000. However, appropriations lagged, and nothing came of Rogers' plans. Apparently they were subsequently scrapped by Alfred Bult Mullett, his successor in office. No trace of them has been found. Rogers was in Portland on the Custom House project before February 13, 1865, when he wrote Secretary William Pitt Fessenden a report of his conference with a committee of Portland citizens advocating a new Custom House.[8]

A similar fate befell Rogers' proposed extension of Ammi Burnham Young's U.S. Custom House in Bangor. The *Bangor Daily Whig and Courier* reported on November 5, 1865, that plans for two-story north and south wings, each extending about forty feet, "have been made by Isaiah Rogers, Esq., Superintending (sic) Architect of the Treasury Department, and it is believed that appropriations can be obtained from Congress . . ." The December 17, 1865, issue of the *Whig* reported that "A. B. Mullett, Esq., Supervising Architect of the Treasury Department, arrived here on Thursday evening to ascertain what



A. Principal Entrance and Stairs
B. Bar Room, or Office
C. Reading Room
D. Smoking Room
E. Gentlemen's Parlor
F. Ladies Drawing Room
G. Stairway
H. Porter's Room

East Wing
1. Dining Hall

West Wing

J. Ladies Dining Room
1; 2. Private Parlors
3; 4; 5; 6. Chambers
K. Stairway
L. Side Entrance and Stairs

Court Yard
M. Privies
N. Piazza
O. Deposit Room
N. Stairway

Figure 3: Plan of the Main Floor of the Bangor House. Drawn in 1974 by Ed Polk Douglas for *The Flight of the Grand Eagle* by Mundy and Shettleworth.

Figure 4. Samuel Farrar House, Bangor, showing Isaiah Rogers' 1846 north wing addition, 1986 view (MHPC).

enlargement of the Custom House building is necessary . . . " Mullett, who loathed Rogers, discarded the latter's plan in favor of his own. A year later the *Whig* for December 21, 1866, expressed dislike for Mullett's plan: "The original plan (by Rogers) of putting an extension on either end is much better, and strong hopes are now expressed that the present plan, before it is finally agreed upon, will receive many modifications."

Thus, fateful timing deprived Maine of at least one other major work by Isaiah Rogers, a Custom House for Portland, to stand with his Bangor House as an example of his creativity. Although it has been greatly altered and considerably enlarged, the original lines of the Bangor House are still discernable. Among the more than fifty known buildings by Isaiah Rogers, the Bangor House is the only surviving hotel, although the exterior walls of the Oliver House in Toledo, Ohio, gutted for a warehouse in 1919, also stand. After a long and productive life, Isaiah Rogers died in Cincinnati, his home for the last twenty-one years of his career, on April 13, 1869.[9]

Denys Peter Myers
Alexandria, Virginia
January, 1986

LIST OF KNOWN COMMISSIONS IN MAINE BY ISAIAH ROGERS

Bangor House, Union and Main Street, Bangor, 1833-34. Altered.

Samuel Farrar House, Court Street, Bangor, 1846, North Wing Addition, Extant.

U.S. Custom House, Portland, 1864, Not Executed.

U.S. Custom House, Bangor, 1865, North and South Wing Addition, Not Executed.

NOTES

[1] On September 16, 1840, Edward Preble Little and his wife called on Rogers in New York City. Rogers' diary for that date referred to his visitors thus: "Friends which I owe not a little for my progress . . . so far, for they gave the first impulse."

[2] Vital Records, Boston City Hall.

[3] Stoddard, Richard. "Isaiah Rogers' Tremont Theatre, Boston", *Antiques*, June, 1974, pp. 1314-1319. Gilman, p. 1315; granite, p. 1316. Bowen, Abel. *Bowen's Picture of Boston* (Boston: Otis Broaders and Company, 1838), p. 194: "The front is of Quincy and Hallowell granite; . . . "

[4] In an advertisement by Rogers and his then partner, Henry Whitestone, in the *Louisville* (Ky.) *Daily Journal* for December 30, 1854, the Bangor House was listed among twenty "buildings designed and erected by Mr. Rogers during the last 20 years." That documentation was undiscovered when James H. Mundy and Earle G. Shettleworth, Jr., wrote *The Flight of the Grand Eagle* (Augusta: Maine Historic Preservation Commission, 1977), which contains an excellent account of the Bangor House (pp. 20-26 and p. 122, footnote 23), although attributing it entirely to Charles G. Bryant and Lyman Seavey.

[5] *Portland Evening Advertiser*, December 29, 1834.

[6] The Rogers diaries for 1838-1855 with some gaps and for parts of 1861 and 1867 are in the Avery Architectural Library at Columbia University in New York City.

[7] Mundy and Shettleworth, *Flight of the Grand Eagle*, pp. 13-17 and p. 121, footnote 3. The Nathaniel Hatch House on Court Street was built in 1832-1833 by Charles G. Bryant. Samuel Farrar acquired the house in 1835.

[8] National Archives, Record Group 121. Letterbooks of Supervising Architect of the Treasury Department, January-June, 1865, pp. 60-62.

[9] The most recent and complete account of Isaiah Rogers' career is contained in the *Macmillan Encyclopedia of Architects* (New York, The Free Press, [1982]), Volume 3, pp. 599-602.

ISAIAH ROGERS' 1838 AND 1839 TRIPS TO MAINE AS RECORDED IN HIS DIARY

May 12, 1838.
Started for Portland in steamer *Portland*. Paid expenses $8.00.

May 14, 1838.
Started for Blue Hill. Arrived there at 10:00. Went to quarry. No columns out nor any good chance to get them immediately unless some clearing is done. Went to Mr. Darling's quarry. Found a fair chance to get columns. Returned in afternoon much fatigued.

May 15, 1838.
Went to the top of Blue Hill Mountain. Saw the monument erected by Dr. Jackson. Added two feet in height on it. Put initials to stick on the pile. Went to the quarry. Examined over the whole. Informed it would take all the season to procure all the stone for the church not including the columns. Chance small to get columns out at present.

May 16, 1838.
Blue Hill. Started for Bucksport. Arrived at 12:00. Dined. Started for Frankfort. About 20 hammers (at work). Bought a salmon at Bucksport for 37½ cents per pound. Walked about Frankfort. Fine place. Some fine buildings. Quite (a) business place. Put up at Commercial Hotel. Paid . . . $4.00.

May 17, 1838.
Frankfort. Started to Bangor. Arrived at 10:00. Paid expenses $4.75. On the way, saw a white pine tree called the Union Tree. Went to Old Town. Paid expenses $4.50. Returned (at) 3:00. Saw the mills, etc. Bought a salmon. Paid $10.00 for two at 25 cents per pound. Paid for one at Bucksport $5.00 at 37½ cents per pound.

May 18, 1838.
Bangor. Started for Portland (at) 5:00 in the *Bangor*. Very stormy in the fore-part of the day. Cleared up at about the middle of the afternoon. Arrived at Portland 4:30. Called on Mr. Merrill at his house. Very kindly received. Took tea at his house. Started for Boston at 8:00 in steamer *Portland*. Heavy sea.

August 28, 1838.
Boston. Took passage to Portland at 7:00. Weather fine.

August 29, 1838.
Arrived at Portland at 5:00 o'clock. Took the Bangor steamer to the east and arrived at Bucksport between 5:00 and 6:00 o'clock. Started for Mosquito Mountain and arrived about sundown. Weather fine. Stopped all night (on) the Mountain. Found a fine hostess and good fare.

August 30, 1838.
Frankfort. At the Mosquito quarry. Took an excursion over the quarry in the forenoon. Saw the works in a fine state to get out stone. In the afternoon, went to the top of Mt. Waldo. Saw one of the finest prospects I ever saw. A cloud closed on the top of the mountain and we descended.

August 31, 1838.
Went to Bucksport and took a gig to Blue Hill. Visited the two quarries. Saw 4 of the smallest columns rounded out, but not of the best kind. Saw one of the large columns at the Blue Hill quarry. The works looks well. Much better than when last there.

September 1, 1838.
Returned to Bucksport last night. Passed the day at the quarry. Rather stormy and disagreeable. Read some books. Rambled about some amongst the rocks. Fine fare at the boarding house. It is well kept, and (in) fine order. People kind and obliging.

September 3, 1838.
At the quarry, Frankfort. Strolled about through the forenoon. Went to Bangor in the afternoon. Arrived there at sundown. Called on a gentleman for Mr. Thomas in relation to getting a vessel to freight stone for church from Blue Hill.

September 4, 1838.
Bangor. Started for Portland at 2:00 o'clock in mail stage. Saw a very interesting country in passing along. Dined in Augusta. Arrived at Portland 10:30 o'clock. Took lodgings at the Chamberlain (Cumberland?) House. Much fatigued.

September 5, 1838.
Portland. Started for Boston 5:00 o'clock. A fine day. Dined at Portsmouth. Arrived at Salem 6:30 o'clock. Took the cars of the Eastern Railroad for Boston. Arrived in 45 minutes. The road appears to be well constructed. Stopped at the Tremont House.

September 10, 1839.
Started for Bangor at 7 o'clock. Paid fare to Bangor $5.

September 11, 1839.
Arrived at Portland 6 o'clock. Called on Mr. (Thomas J.) Sparrow. Took a walk over the city with him. Detained all day in Portland. Stopped at the Cumberland House. Paid for refreshments etc. 35 cents. Paid for board and lodging $1.50.

September 12, 1839.
Started from Portland for Bucksport. Had a very pleasant voyage. Arrived to Bucksport at 6 o'clock. Paid for meals 81½ cents. Wine champagne $2.

September 13, 1839.
Went to Blue Hill. Called on Mr. Darling for an estimate of columns. Examined the stone got out at the Blue Hill Quarry for the church in Lafayette Place. Took account of them. Paid at Blue Hill for board and lodging $2.50. Paid ferrying to Frankfort 82½ cents.

September 14, 1839.
Started from Blue Hill. Went to Bucksport in afternoon. Went to Mosquito Mountain. Saw no one there. All gone to farming. Returned to Bucksport in evening.

September 15, 1839.
Went to Bangor. Arrived at 12:00 o'clock. Took a walk over the city in afternoon with Mr. Wild. Sundry expenses 50 cents.

September 16, 1839.
Monday, started from Bangor at 5 o'clock in steamer *Bangor*. Weather rough. Arrived at Portland at 8 and ½ o'clock and started for Boston in the steamer *Portland* at 9 o'clock. Paid sundry expenses for dinner $1. Horses hire and board $10.

September 17, 1839.
Arrived from Portland at 9 o'clock. Had much fog.

Daguerreotype of Isaiah Rogers taken June 18, 1846.
Courtesy of The Bostonian Society.

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