

# Lewis and Bartholomew's Mechanical Panorama of the Battle of Bunker Hill

By JOSEPH EARL ARRINGTON

THE mechanical panorama formed an important part of early American entertainment and mass education. It was an intermediate type between the old cyclorama, or circular painting installed in a round building which was viewed from a central platform, and the rolled painted canvas panorama that moved across a stage before an audience. It combined some elements of both types by providing mechanical motion for figures and objects that reenacted human or natural events before painted backgrounds or drop scenes as the stationary setting for the action. It has been known by various names during its development—earlier as a mechanical theater or panorama and later as a diorama, but more comprehensive in scope than those of today. Its historical antecedents were found in the Oriental and European shows that reached America in increasing numbers by the late eighteenth and early nineteenth centuries, as the Chinese shades, French *théâtre pittoresque*, Italian *fantoccini* and English puppetry.<sup>1</sup>

The panoramic theater, or *Eidophusikon* of Phillip James Loutherboung, was produced in London in 1781, showing a variety of picturesque scenes of nature in motion. By 1785 Charles Willson Peale had imported the same idea to Philadelphia in some "perspective views with changeable effects; or nature delineated and in motion." Included in Peale's subjects were Captain John Paul Jones's na-

val battle, a terrible storm and a peaceful waterfall. In 1804 "The Grand Eudifocicon, or mysteries of mechanism," was staged in New York, presenting "a wonderful group of artificial comedians" as the actors. Another early American contribution was made by Peter Martin Stoltenwerck, a jewelry dealer from France, who settled in New York in 1794. After working a number of years on a new project, he opened in 1808 his mechanical panorama of a seaport, with all of its commercial and manufacturing activities in progress, which remained before the public for fifteen years. Other such exhibitions coming from Europe toured the United States in 1811 and 1812, showing the Great Fire of London, Horrors of the Bastille, Spanish Armada, Wild Animals and a Thunder Storm. In 1818 Maffey exhibited some maritime subjects in his mechanical theater, while Ardenonde presented Old World cities with the daily life of their people on land and sea.<sup>2</sup>

It was not until 1827, when John Maelzel brought his mechanical panorama of the Conflagration of Moscow from Europe to this country, that we get a closer prototype for Lewis and Bartholomew's Battle of Bunker Hill. In continuous moving scenes of figures, Maelzel presented Napoleon's army marching to Moscow in 1812, followed by the evacuation of the citizens and then the incendiary destruction of their city. The military forces and their equipment were

drawn along roadways and over bridges on grooved paths by mechanical means, accompanied by the din of war and martial music. Special stage scenery simulated the city in flames and drop scenes with lighting effects gave the natural setting and the fire seen at a distance, though the withdrawal of fire screens produced the effect of spreading fire in the city. Probably a similar mechanism was applied to the Battle of Bunker Hill and the Conflagration of Charlestown in America.<sup>3</sup>

Minard Lewis, the first collaborator on the Bunker Hill panorama, was born in Maryland about 1812, but the facts relating to his early life have not been found. He was twenty-six years old in 1838 when the battle scenes were painted and mechanized in Boston. Three years later, in 1841, he produced a model and panorama of Niagara Falls in which he introduced real waterfalls with real sound effects for public display. An unidentified M. Lewis exhibited the "Portrait of a Lady" at the National Academy in New York in 1843 and we know that he was a resident of that city in 1847-1848. Then in 1849 he went to the middle west and took a trip from St. Joseph on the Missouri River to the Pacific coast, doing sketches along the way from which he painted a long, moving panorama that was on exhibition in 1850-1851. The American Art Union listed two paintings by M[inard] Lewis in 1851-1852—one an "Indian Grave" on the Prairie, and the other "Prairie with Buffaloes."<sup>4</sup>

Lewis became a professional scene painter for the Boston Museum from 1857 to 1859. He made the scenery for Harriet Beecher Stowe's slave drama of "Dred, or The Dismal Swamp," in February, 1857; with George Curtis he produced Dr. Kane's "Sea of Ice" in Oc-

tober, 1857; the Enchanted Horse in January, 1857; "Sinbad the Sailor," a panorama of peril on ocean and land, in 1859; and "The Grand Allegorical Japanese Romance" (n.d.). Also in 1858 he, together with T. C. Bartholomew and G. C. Fletcher, painted other "Illustrations of Dr. Kane's Arctic Voyages" as staged in the Boston Melodeon; and with Hawthorne, he made the scenery for the patriotic subject of "Blanche of Brandywine" which featured again Bunker Hill and other battles of the Revolution. The last information we find about him is from the United States Census taken in June, 1860, listing Mynard Lewis at the age of forty-eight and his younger wife, Mary, as residents of New York City.<sup>5</sup>

The second partner of the Bunker Hill project was Truman C. Bartholomew, the son of Erastus and Sally Bartlett Bartholomew, who was born December 15, 1809, in Vershire, Vermont. The family life and traditions prepared the way for his mechanical production. Truman's grandfather, Moses, had taken part in the Battle of Bunker Hill, served as a drummer boy in the Revolution, and operated several mills during his lifetime which lasted until 1839. His father Erastus, born at the close of the Revolution, became a blacksmith, an iron worker, a machinist and a famous New England inventor. His company produced a long list of useful inventions, like the breech-loading gun, nail-making machine, knitting machine, iron hand-press, "toggle" joint, cordage and coil machines. He was operating in Boston as early as 1818 and, with associates, was listed as a builder and machine maker there until 1837. He lived until 1860. Truman's younger brother, Azro Buck, was the foreman of a large machine shop and his half-broth-

er, William Nelson, had a notable life career in Boston, as a practicing artist, teacher of drawing in the city schools and author of several textbooks on art.<sup>6</sup>

The early life of Truman is also rather obscure. He was only nineteen when John Maelzel showed the mechanical panorama of Moscow in Boston for the first time in 1828, and he may have helped to operate it for an unidentified Bartholomew was with the same show in Albany, New York, a year later. Then from 1831 to 1833 he was listed in the Boston Directory with John R. Gillis as painter. He married Mary Dunnaford in 1834, but she died two years later and he was not remarried until 1844, becoming the father of four children in the two families. Bartholomew "was a scenic artist of note, residing in Boston, Massachusetts, spending his entire life in supplying the theatres of that city with scenery." After producing and exhibiting the Bunker Hill panorama in 1838-1839, we find him at the Tremont Theater in 1840-1841 providing scenery for the play of "John Bull." He was still a scenic artist in 1845 and an ornamental painter in 1846-1847. His painting of Jerusalem, containing 700 square feet of canvas, formed the background for sixty-one figures depicting the life of Christ in an exhibition at Charleston, South Carolina, and elsewhere in 1847.<sup>7</sup>

From 1848 to 1850 Bartholomew painted moving panoramas. The first one, probably in 1848, was the "Running Fight from Concord to Boston, including the Battle of Lexington," which occupied 3,000 feet of canvas. This was followed in 1849 by a "Grand Historical Panorama of a Voyage to Scotland," comprising views of "Charlestown, Boston, its Harbor, Roxbury, South Boston, Mount Washington, the Atlantic

[Ocean], Leith, Edinburgh and the magnificent scenery around the Scottish capital." In 1850 he finished a new "Panorama of the Kennebec River" in Maine, based on the sketches of C. W. King and J. C. Tallman, which was shown in Maine's cities during 1850-1851. After working with C[harles] Lehr on the scenery for Sheridan's "Rivals" at the Boston Theater in 1854, and producing, probably in 1855, the twenty gorgeous Chinese scenes in Steele's "Aladdin" which was shown in New York in 1856 and Boston in 1857, Chase and Bartholomew created a new mechanical mirror of the naval battles of the War of 1812, with 7,000 moving figures in six separate scenes. In 1858 he and Minard Lewis collaborated again, this time on the scenery for Kane's Arctic Voyages. The final important scenic work was probably Bartholomew and Preston Wesley's "[Civil] War Tableaux." He died in Melrose, Massachusetts, December 7, 1867, approaching his fifty-ninth year, and was interred in Mt. Auburn Cemetery.<sup>8</sup>

It is indefinite when Lewis and Bartholomew became partners for creating their Bunker Hill diorama, though it was the product of the latter part of the 1830's. The records are silent as to the part each played. Bartholomew was given more public credit for the paintings, even though Lewis' name heads the partnership. The artists took up the project "with the intention of making it superior in point of interest, and perfection of movement, to any similar exhibition ever offered to the American public." "The best artists and machinists have been engaged" upon the undertaking, it was explained. "The machinery was constructed by Preston Blood" and several artists assisted with the paintings, especially the

supplementary panoramas and drop scenes. The production of "the whole exhibition" was done "at great expense." The machinery to run the diorama alone "cost the proprietors over \$1,500." The original project was completed by the end of 1838 with its "superb paintings" and the interesting events "produced by the delicate and nicely arranged machinery." Then in the 1840's, after much experience in running the mechanism, "Many improvements and additions" were made on it. Preston Blood was "constantly employed in making valuable additions to this already extensive exhibition" and George A. Nichols and other artists continually worked on new paintings for it. After a decade "the paintings [had] all been retouched, new and larger figures introduced and other improvements [made], which add materially to the various scenes." The artistic and "the mechanical skill and ingenuity" of its production were "of the highest order and the labor immense." We are given no concrete measurements of the figures or the size of the whole diorama, but the numerous figures and the large halls required for its staging indicate something of its magnitude. Observers called it "the largest and most perfect representation in the United States of that memorable event."<sup>9</sup>

It was not "a mere painting"; the medium was "a combination of mechanism and scenery," having some chemical, color and lighting effects, with simulated war din and musical accompaniments. It contained "all kinds of properties and representation of human beings," that "added verisimilitude" and increased the illusion of reality. The artists carved by hand all of its figures from wood in the round, finished them "in a style of perfect symmetry; and dressed in

appropriate costumes," which were scarlet in color for the British uniforms and mostly civilian farm dress for the Americans. This was a great improvement over the common, flat, pasteboard puppets of the past. These were "automatic figures, exhibiting all motions natural to muscular organization," and "bending as they do every joint" of the body, by which they were "made to imitate with wonderful accuracy, the movements of animated nature" and "every animate object appears as in life."<sup>10</sup>

The most numerous of the figures were of the animated soldiers, whose disciplined military activities were admirable. The total number of these figures was estimated variously in the hundreds or thousands and running as high as 50,000. The latter estimate is much exaggerated since it is known that the total battle forces on both sides did not equal half that number and both Boston and Charlestown had been evacuated of most of their American civilian population. But there were definitely many "thousands of miniature troops actually marching and counter-marching to the regular sounds of martial music, accompanying their respective scenes." Their prancing war steeds, with the riders and artillery pieces, had "the appearance of life." There were moving baggage trains and powder wagons on land and shipping boats and sailing war frigates on the rivers and in the harbor, with the "roaring cannon and rattling musketry" being heard. The battle action was realistic from "the firing of guns, the flash, the smoke, and the report." It had representations of houses on fire and showed the movements of citizens, whose normal, peaceful life had been disrupted by the military activities and the threatening dangers of war.<sup>11</sup>

The artists undertook to give "a correct portraiture of all the leading incidents" of the first organized battle of the nationalists, "as noted by the most popular authors and compilers of the History of the American Revolution." Starting "from the time the first fortification was established, you see scene after scene and incident after incident portrayed." The diorama included "the whole of the events of that memorable day, consisting of the mustering of the Americans, the alarm, the mustering of the Royalists, the march, the embarkation, the hill, the fight and the conflagration." Competent judges observed that the reality of the battle was faithfully done. It was "so graphically represented," that spectators felt they were "on that first battleground of the Revolution!" and "that living men and horses with great cannons and musketry never enacted a more perfect battle," than these puppets.<sup>12</sup>

This mechanical theater dramatized the Battle of Bunker Hill in three acts, representing progressively the stages of the military action. Commencing with Scene One, the mustering of the Americans on the road to Bunker Hill the night before the battle, "the audience are supposed to be on [the] Charlestown side, looking southeast" toward Boston. There was a "near view of the Americans headed by Colonel [William] Prescott and two surgeons crossing Charlestown Neck, on their way to the [Breed's, later called Bunker's] Hill, together with horses and wagons loaded with entrenching tools, &c. Distant music is heard as coming from the British fleet in the harbor." This military detachment was engaged all night long in an undiscovered engineering project under the direction of the chief engineer, Colonel Richard Gridley. They were erecting a redout or

entrenched fortification on the commanding hilltop to strengthen the defensive position of the Americans against the superior military power of the British whose ground troops and naval forces then held Boston and its harbor.<sup>13</sup>

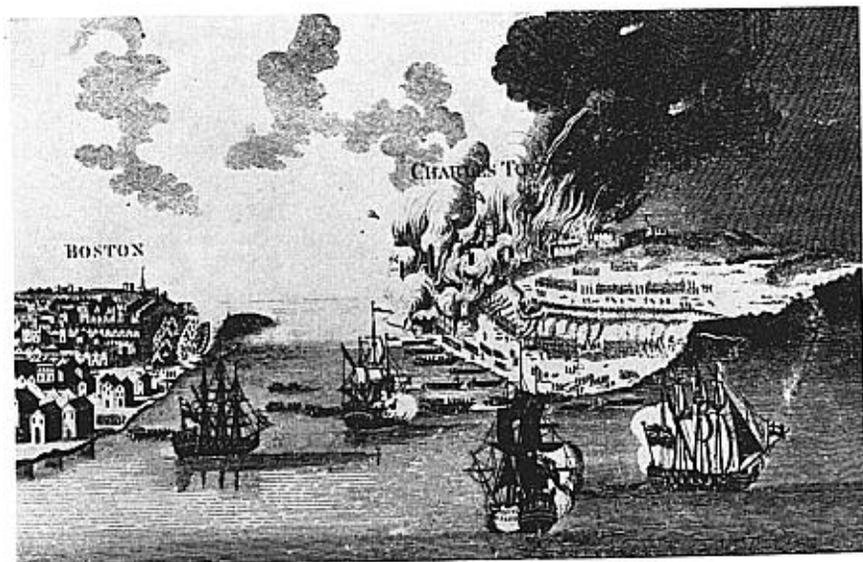
Scene Two of the battle was "the alarm, mustering of the Loyalists," and "the bustle of the British camp on the morning of the battle." It was a "view of the State House," etc., "as seen from the lower end of King [now State] Street, Boston." This fine perspective view, featured by handsome lighting, was a correct scene of Boston at the time, with King Street and the gabled façade of "the old State House forming the center of the view; King George's Custom House, Butcher's Hall," and other public buildings on the right. The rising curtain "displays the scene at early sunrise, which gradually changes to broad day. The Citizens and others are seen crossing the street in different directions upon their various vocations." At dawn the British were astonished to discover "their formidable foe towering above their heads" on Bunker Hill which endangered the security of Boston. The British General, Thomas Gage, called a council of war immediately to cope with the threatening situation. "The bearer of this important message" to his forces "is seen to ride furiously" through the street. "As the scene merges to day, the British troops become advised of the doings of the previous night," and then comes their rapid preparation for battle.<sup>14</sup>

This scene also shows the troops "moving with rapidity through the streets of Boston. A corps of dragoons, which had been manoeuvring in sight of the Americans, are seen to gallop through the street to the Old South [Church], their place of rendezvous. The rattling of ar-

tillery, carriages, and wagons is heard," as the regiments are forming for their military movements. Along with the "mounted dragoons and cavalry dashing furiously through the streets," are heard "the roar of the cannon from Copp's Hill, the floating batteries and frigates announce a speedy engagement. The drums beat to arms, a trumpet sounds and all

wagons, stage coaches, gigs and every variety of vehicles in rapid motion," all "rattling over the pavement," "pass at intervals across the scene." The houses on the street are "crowded with anxious spectators, gazing at the movements of the troops through the streets," preparing to embark for battle.<sup>15</sup>

Scene Three of the mechanical theater



"VIEW OF THE ATTACK ON BUNKER'S HILL, WITH THE BURNING OF CHARLES TOWN, JUNE 17, 1775."

From a contemporary engraving.

Courtesy of The New York Public Library (Emmet Collection).

becomes bustle and confusion." The hurrying soldiers and disturbed citizens all add excitement and interest to the scene. The various "British troops are now discovered moving through the streets, to the place of embarkation" in organized form. They were "actually stepping forward with true military precision and harmony with martial music." "Company succeeds company in rapid succession"; "officers on horseback, horses dragging the heavy cannon, baggage

represented the embarkation of the British troops, the battle and the burning of Charlestown as seen from near the summit of Copp's Hill in Boston. The topography in this view included Bunker's Hill, the town of Charlestown and parts of the Charles and Mystic Rivers. On Copp's Hill, "the British had stationed a detachment of select [artillery] troops, who kept up an incessant fire upon the Americans, throughout the day" of June 17. Those engaged at this emplacement, un-

der the direction of Generals John Burgoyne and Sir Henry Clinton, were near the audience who thought they were "worthy of all admiration" in their performances. They singled out a carved "little gentleman," whose business it was to "fire the piece," as "an admirable specimen of perseverance." This scene also opens "at early morning, before the Americans had been discovered on the hill; small vessels sail sluggishly up the river—the sun rises and the scene gradually merges into daylight. The British troops commence embarking from Winnisimmit Ferry and the end of Long Wharf" and other "boats are seen moving in all directions—some up and some down the river," for bombardment of the hill and its approaches. "The sailing of the *Glasgow* frigate" in the Mystic River and other large frigates up the Charles River during the battle engagement, "elicit[ed] the admiration of all" spectators of the mechanism. Other vessels are seen crossing the harbor from Boston to Bunker Hill to evacuate the casualties during the battle. "Those conveying the troops are seen on the right, which land at Morton's Point and Maddin's Ship Yard," at the foot of Bunker (Breed's) Hill.<sup>16</sup>

The battle commences after "the field artillery of the British opens on the Americans, which is the signal to advance." Excitement heightened as "the drums of the Americans beat to arms." "The British move slowly" towards the entrenched Americans at the summit of the hill and its newly built redoubt where the first troop engagement takes place. Great violence is inflicted by the defenders who had groups of men firing and reloading alternately after the army came within range. "The British are repulsed and driven back" down the hill with heavy

losses. This was repeated a second time, with the Americans scattering the British again. Many dead and wounded are left behind on the hillside battlefield facing Boston. Then in a third massive onslaught, General Lord Richard Howe's reorganized and reinforced troops courageously pressed in "a forward movement to scale the works and rush on the enemy with the bayonet," in which they won the day. The American defenders, triumphant in the first two engagements, now in the third being overpowered by superior forces, equipment and ammunition, suffered considerable losses. They "give way and in their turn are seen retreating rapidly down the hill," on the opposite side toward Charlestown Neck and their military base in Cambridge. General Joseph Warren fell on the field of battle as America's first great loss and the first hero of the Revolution.<sup>17</sup>

In the meantime, "a British ship-of-war is seen to move from the wharf in Boston and take position so as to open her guns upon Charlestown," which soon takes fire from the shells and also from incendiary torches, thereby "throwing a dense mass of smoke—like a thunder cloud—over the contending armies." A spectacle comes next, in which the "flames are seen ascending in the distance from Charlestown, and the scene closes with its conflagration" and "the destruction of the entire town." This was the grand tableau and finale of the Battle of Bunker Hill. The spectators, who watched the "falling of one roof after another, and the consequent scattering of sparks and flakes of fire on all sides," felt this was a theatrical masterpiece, and "one of the greatest triumphs of art." It climaxed the diorama, which "forms a perfect miniature representation" of the revolutionary "scene of the most thrilling

interest." It was difficult for them to imagine how the reality could be more faithfully represented as they looked "up- on the field of blood and death" enacted before them.<sup>18</sup> (To be concluded.)

NOTES

\* (Sources quoted in the text)

<sup>1</sup> Washington, D. C., *National Intelligencer*, June 3, 19, 1850.

<sup>2</sup> Maurice H. Grant, *A Chronological History of the Old English Landscape Painters* (London, 1926), I, 108; Charles C. Sellers, "Charles Willson Peale . . .," in *The American Philosophical Society Library Bulletin*, 1944, pp. 18-20; Charles Willson Peale, *\*A Descriptive Catalogue of Mr. Peale's Exhibition . . .*, a broadside in American Philosophical Society Library, Philadelphia, Penn.; *New York Post*, \*Apr. 27, 1804; Apr. 25, 1808; Nov. 28, 1811; June 17, Oct. 6, 1818.

<sup>3</sup> Author, "John Maelzel—Master Showman of Automata and Panoramas," *Pennsylvania Journal of History and Biography*, Jan. 1960.

<sup>4</sup> George C. Groce and David H. Wallace, *The New York Historical Society's Dictionary of Artists in America* (New Haven, 1957), pp. 397-398; Mary Bartlett Cowdrey, *The National Academy of Design, Exhibition Record, 1826-1860* (New York, 1943), I, \*293; *American Academy of Fine Arts and American Art Union, Exhibition, 1816-1852* (New York, 1953), \*232; *Doggett's New York City Directory*, for 1847-1848; *Boston Transcript*, Apr. 25, 1841; *Philadelphia Public Ledger*, Apr. 19, 1850.

<sup>5</sup> *Boston Transcript*, Feb. \*14, Oct. \*12, 1857, Jan. \*11, Feb. \*17, 1858; Groce & Wallace, 159; Boston Museum playbills—The Grand Allegorical Japanese Romance and Blanch of Brandywine (1858) both in Brander Mathews Dramatic Museum, Columbia University; Laura Keene's New Theater, Playbill, New York, Apr. \*28, 1858 (Brander Mathews); U. S. Census (1860) New York, Vol. 60, p. 87; Sinbad the Sailor, \*Playbill, in Dramatic College, Yale University.

<sup>6</sup> George W. Bartholomew, *Records of the Bartholomew Family* (Austin, Texas, 1885), pp. 110, 173-177, 275-276; Charles Stimpson, *Boston Directory*, 1818-1837; Groce & Wallace, p. 33.

<sup>7</sup> *Boston Directory*, 1831-1850; George W. Bartholomew, \*275; William W. Clapp, Jr., *The Boston Stage* (Boston, 1853), pp. 366-367; Groce & Wallace, pp. 32-33; *Courier* (Charleston, S. C.), Dec. 10, 1847; John Passarow's Letters to W. P. Gragg, dated Boston, Aug. 6, 16, 1829, with Maelzel's papers, American Antiquarian Society, Worcester, Mass.

<sup>8</sup> *Courant* (Hartford, Conn.), Jan. \*11, 1848, Dec. 18, 1858; *Advertiser* (Portland, Me.), May \*31, 1849, July 15, 1857; *Whig and Courier* (Bangor, Me.), March \*24, 1851; *Boston Chronotype*, Jan. 28, 1847; Groce & Wallace, pp. 32-33, 231, 370, 396; Eugene Tompkins, *The History of the Boston Theatre* (Boston, 1908), 15; George C. D. Odell, *Annals of the New York Stage* (New York, 1931), VI, 585; Chase and Bartholomew's playbill of the Mechanical Mirror, Dec. 4, 1858, in the Am. Antiq. Soc.; Bartholomew and Preston Wesley's playbill, in Houghton Library, Harvard; Mrs. Howard Bergmann, letter to writer dated Melrose, Mass., Apr. 5, 1960.

<sup>9</sup> *Spy* (Worcester, Mass.), Dec. \*2, 1851; *Baltimore Sun*, July \*14, 1843; *Register* (New Haven, Conn.), Nov. \*20, \*21, 1849; *Portland Transcript*, Sept. \*6, 1845; *Boston Transcript*, May \*3, 1841; *Portland Advertiser*, Aug. \*12, 1839; *New York Commercial Advertiser*, Oct. 16, 1839.

<sup>10</sup> *Portland Advertiser*, Aug. \*12, 1839, June \*21, 1849; *New York Herald*, Aug. \*10, 1839; *National Intelligencer* (Washington, D. C.), June \*19, 1850; *Boston Transcript*, Oct. 10, 1842; Odell, IV, \*420; *New York Commercial Advertiser*, Sept. 13, Oct. \*5, 1839.

<sup>11</sup> *New York Herald*, Oct. \*14, 1839; Sept. \*21, 1855; *Baltimore American*, July \*14, 1843; *Washington National Intelligencer*, June \*27, 1850; Playbill of Battle of Bunker Hill, Masonic Hall, Philadelphia, Oct. 30, 1843, in Library Company of Philadelphia.

<sup>12</sup> *Baltimore Sun*, Feb. \*28, 1855; *Boston Transcript*, Dec. \*8, 1838, Oct. \*11, 1842; *New York Herald*, Oct. \*10, Nov. \*1, 1844.

<sup>13</sup> Playbill, Battle of Bunker Hill, Waldo Hall, Worcester, Mass., Dec. \*6, 1851, in *Am. Antiq. Soc.*; *Boston Transcript*, Dec. 8, 1838.

<sup>14</sup> Playbill, Battle of Bunker Hill, Boston Museum, Jan. \*11, 1847, in Houghton Library; *Boston Transcript*, Dec. \*8, 1838, Oct. 11, 1842; *Advertiser* (Lowell, Mass.), May \*29, 1839; \*Worcester Playbill.

<sup>15</sup> \*Boston playbill; \*Worcester playbill; *New York Herald*, Oct. \*10, 1844; *Philadelphia Public Ledger*, Nov. 2, 1843; *Washington National Intelligencer*, June \*19, 1850.

<sup>16</sup> *Philadelphia Public Ledger*, Nov. \*2, 1843; *Boston Transcript*, Jan. \*7, 1847; \*Boston playbill; \*Worcester playbill.

<sup>17</sup> \*Worcester playbill; *Washington National Intelligencer*, June \*19, 1850; *Boston Transcript*, Oct. 11, 1842.

<sup>18</sup> *Washington National Intelligencer*, June \*19, 1850; *Baltimore Sun*, July \*14, 1843; *Worcester Spy*, Dec. \*6, 1851; *New York Herald*, Oct. \*10, 1844; \*Boston playbill; *Boston Transcript*, Oct. \*11, 1842; *Lowell Advertiser*, May \*29, 1839.

## Contract for Building Portions of a Turnpike in 1806

(FROM THE SOCIETY'S MANUSCRIPT COLLECTIONS)

ARTICLES of agreement made this thirty first day of March Eighteen Hundred & six between Peleg Slocum & Nath<sup>l</sup> Merrill of Lynn, County of Essex on the One Part & Fitch Hall in behalf of the Directors of the Andover & Medford Turnpike Corporation on the other part—Witnesseth

That the said Slocum & Merrill do Covenant Contract & agree to make & Complate in a Workmanlike manner Those parts of said Turnpike Road here-after Mentioned Viz<sup>t</sup>—The Job Denominated N<sup>o</sup> 3 begining at the North End of Marshall & French' Job in Jon<sup>a</sup> Porter' Wood Lott & near the Stoneham Line—Running Notherly about Two hundred and fifteen Rods untill it meets said Slocums Job across Spot-pond Meadows & on this Job the Hills are all to be cut

down so as not to have more than one foot rise in a Rod—Job N<sup>o</sup> 5. begins at the north End of said Slocums Job (being denominated N<sup>o</sup> 4 & sixteen Rods Long across Spot-pond Meadows for which he is to have six Hundred Dollars when Completed) & on Land of M<sup>r</sup> Barns & runs Notherly to hills Road so Called in Stoneham which is about Three Hundred Rods & there is to be no rise on this Job of more than One foot in Twenty except one at the Hill in James Hill' Land & near the above mentioned Road which is to rise one foot in a Rod—Job N<sup>o</sup> 6 begins at Hills Road so called & runs Notherly to the Line between Reading & Stoneham & is about Six Hundred & Forty Rods—Job N<sup>o</sup> 8—begins at the North End of Job N<sup>o</sup> 7 & in Land of Jonas Parker & runs Noth-