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Arms for the Defense of the Eastern Provincias Internas of New Spain in 1810: A Mountain Cannon

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The establishment of the Provincias Internas of New Spain in 1776, according to plans formulated by Visitor General José de Gálvez, began a coordinated policy for the development of the northerly regions of the viceroyalty of New Spain. Among the most problematic areas were those of New Mexico and Texas, adjacent to the English colonies of North America that had recently declared independence and were in the process of becoming the United States of America. At the inception of the nineteenth century, the threat of expansion by the new republic was augmented by Napoleonic interest in the acquisition of Louisiana and by intrigues with the United States.

During that period, maintenance of the viceroyalty's territorial integrity was of highest priority and, as a means of retaining security in the region, Brigadier Nemesio Salcedo y Salcedo was appointed as commandant general of the Provincias Internas by Royal Order of 26 August 1800. Salcedo began his military career in 1765 by enlisting as a cadet in the Regiment of Royal Spanish Guards where he served for five years. Named captain of the Infantry Regiment of Navarre in 1770, he participated in the unsuccessful invasion of Algiers in North Africa under the command of Alejandro O'Reilly and later acquainted himself with warfare in the Americas by serving under Bernardo de Gálvez in the 1780 siege of Mobile against the English during the American Revolution. Upon returning to Spain in July 1783, Salcedo was promoted to lieutenant colonel and in 1790 to colonel of the Infantry Regiment of the Crown. Later that year he returned to New

Spain where he served under the viceroy, Count of Revilla-Gigedo, and was promoted to the rank of brigadier.[1]

On 4 November 1802, Salcedo arrived in the city of Chihuahua, seat of government of the Eastern Provincias Internas, to occupy his new post as commandant general. Immediately confronted with the political changes arising from the United States purchase of Louisiana, he initiated a program for the improvement of frontier defenses and in 1803 decreed the establishment of educational programs for soldiers at the presidios and garrisons within his jurisdiction as alluded to in the first letter translated below. The following year he prohibited the entry of colonists and contraband from Louisiana; this decree was ignored, however, and in 1806 he was forced to detain United States Army Lieutenant Zebulon Montgomery Pike and his party in Chihuahua and expel them through Texas to Louisiana for having entered Spanish territory through northern New Mexico without permission. Despite these measures, espionage and filibustering plotted in United States territory did not halt, and in 1809 Salcedo reiterated his decrees of prohibition.[2]

In addition to handling these international problems, Salcedo had to maintain order and security in the isolated areas of the Western Sierra Madre, where gold, silver, and copper mining was expanding. The constant threat of indigenous hostilities, especially from the Apache and Comanche in the eastern sector, occupied the troops under Salcedo's command, and in 1807 he decreed the obligatory carrying of arms by all miners, ranchers, muleteers, and merchants. He also began the local manufacture of smooth-bore muskets, but logistic problems, special needs resulting from the geography and climate of the region, and the forms of combat employed against hostile groups required

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[1] Odie B. Faulk, *The Last Years of Spanish Texas, 1778-1821* (The Hague: Mouton, 1964), 21; and Luis Navarro García, *Las Provincias Internas en el siglo XIX* (Sevilla: Escuela de Estudios Hispano-Americanos, 1965), 3-4.

[2] Faulk, *The Last Years of Spanish Texas*, 21, 31, 10, and 120. For full information on the Pike expedition, see Donald Jackson, ed., *The Journals of Zebulon Montgomery Pike, with Letters and Related Documents*, 2 vols. (Norman: University of Oklahoma Press, 1966). In 1807, Salcedo's nephew, Manuel María de Salcedo, was appointed governor of Texas; he was assassinated in 1813 by the insurgent-filibuster from Tamaulipas, Bernardo Gutiérrez de Lara. For Manuel Salcedo's biography, see Félix D. Almaráz, Jr., *Tragic Cavalier: Governor Manuel Salcedo of Texas, 1808-1813* (College Station: Texas A&M University Press, 1991).

specialized arms, most of which were developed by the troops themselves as demonstrated in the correspondence below.[3]

To initiate the manufacture of artillery adaptable for use in campaigns in rugged mountain regions similar to mountain cannons developed in Spain, Salcedo wrote to his friend and colleague, Miguel Costansó, marshal of the Royal Corps of Engineers of New Spain. A native of Barcelona, Costansó entered the corps on 12 January 1762 and after two years of service in Barcelona and Málaga transferred to Veracruz. In 1767 he participated in the formation of defenses against Seri uprisings in Sonora under the command of Colonel Domingo Elizondo who was assigned to protect newly arrived Franciscan missionaries, and the following year he was sent to Baja California to serve under José de Gálvez. During 1769 and 1770 he became famous as an engineer and cartographer with the colonizing expeditions sent to Alta California and was later sent to Mexico City where he designed various public projects and taught in the Academy of San Carlos. Due to his great competence and skill, Costansó rose to the rank of colonel in 1795, brigadier in 1802, and marshal in 1809.[4]

Subsequent events of 1810 radically altered Salcedo's priorities for defense against hostile Indians. He apparently made no further attempts to develop or manufacture new armament, and the mountain cannon was realized only on paper. As a conservative and a royalist, on 14 October 1808 he proclaimed his support of King Fernando VII, and began collecting funds to aid Spain during the Napoleonic invasion, contributing three thousand pesos from his own estate. Furthermore, the movements of insurgency to overthrow the viceroyalty begun in New Spain by Father Miguel Hidalgo y Costilla in Guanajuato on 16 September 1810 greatly endangered the arc of Salcedo's command. Consequently, his concern over defending his jurisdiction against revolt and the threat of filibustering expeditions from the United States caused him to divert attention from the problems of Apache and Comanche depredations. On 26 April 1811, Salcedo supervised the formation of

[3] Faulk, *The Last Years of Spanish Texas*, 67, and Letter 1, translated herein.

[4] Janet R. Fireman, *The Spanish Royal Corps of Engineers in the Western Borderlands* (Glendale, CA: Arthur H. Clark Company, 1977), 93-94, 108-09, 133-39. It was not unusual for it to take thirty-three years to make colonel in the Spanish military.

a military tribunal in Chihuahua for the trials of insurgent leaders Father Hidalgo y Costilla, Ignacio Allende, Juan Aldama, Mariano Jiménez, and other followers, and he monitored their execution that July.[5] Commandant General Salcedo also had to adjust to constitutional innovations providing for colonial representation in Spain by sending Juan Bautista Pino of New Mexico, Juan José Guereña of Nueva Vizcaya, and Manuel María Moreno of Sonora as deputies to the Spanish Cortes.[6] In the midst of these critical developments, Salcedo retired to Spain in 1813. The following year Costansó died. Both events marked the end of an era of active and dynamic Spanish expansion in the Provincias Internas of northern New Spain.

The letters translated herein are part of a file of various letters addressed to Miguel Constansó by diverse persons in the personal collection of the translator.[7] Unfortunately, Costansó's replies have not come to light and, apart from the drawings of the cannon, other enclosures and illustrations are absent. Nevertheless, it is hoped that these brief documents may add a new facet to knowledge of military activities on the northern frontier of New Spain.

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[5] Félix D. Almaráz Jr., "Texas Governor Manuel Salcedo and the Court-Martial of Padre Miguel Hidalgo, 1810-1811," *Southwestern Historical Quarterly* 99 (1996):457-63.

[6] Navarro García, *Las Provincias Internas en el siglo XIX*, 45-46, 54.

[7] Electrostatic copies of the original documents translated herein are deposited in The Bancroft Library, University of California, Berkeley.

Nemesio Salcedo to Miguel Constansó

[Letter 1]

My esteemed friend: I shall be brief due to both esteem and friendship, although I must bother you a little by including a request.

Since my taking command of this post and its troops, I have devoted myself fervently to obtaining for them the first principles of education. I established schools of speech, reading, and writing in all of the presidios and military posts, distributing prizes every six months to masters and pupils according to courses, application, and progress. The results have been excellent so far; however, knowing that for war and other purposes they needed, and would find useful, a knowledge of geography, the use of a globe, and instruction in topographic charts, I made special effort to establish an Academy of Cadets who would know how to map the land that they had marched over, prepare diaries, and through these diaries verify the sketch maps which they would give to me. The cadets have advanced, and I am at the point where, in every campaign, patrol, or expedition, they record distances, water sources, mountains, and other notable matters. You know better than I the poverty of these cadets, and for this reason it is necessary to reduce the cost of their few and poor instruments to a minimum (supposing that the officers' quarter-clock is of use to them), but, although they are making serious mistakes, they are also executing the composed and simple semicircle as shown in the sample. With the doubt that they execute it properly here, before I close, I ask that you would tell me how this could be made in eighths, and how much an ordinary, not very large, compass would cost. Here is my imposition:

The enclosed little plans,[8] which I had the master collect, will show the idea, utility, and all else better than I can demonstrate in writing.

God only knows how much I am in need of an engineer here. Patience: without books, without knowledge, without personnel, as can be seen there are great needs. I learned to make smooth-bore muskets, and they now turn out to be excellent, the best of the best. What work it is to drill or bore the breech, but it came out as I had thought and as you have seen. Seven hundred men have been armed with them, which

[8] Copies of these plans are not available.

shows without saying how many have been built in one month. These Provinces are so unfortunate that they depend upon the commissioners in Mexico for everything, the sending of iron, files, etc., without knowing if the quality is good or bad, or if they are of use or trash; the shipments are late, they are more or less difficult, and they are dependent upon will and opportunity.

In the second-to-last campaign against the Indians of the Sacramento,[9] we took a small cannon that was fired from the mule that carried it, and the test proved to be advantageous. I have already made a carriage and pack-saddles for the cannon which I want to try out as soon as I have wood (we even lack this), and carry the one and the other on two mules. We shall see the results, which should be good if, as I believe, nothing prevents the animals from following the troops at all times and over all terrain. I hope that you will tell me that you will make some cannons for this purpose, with a weight of four to five arrobas,[10] and the carriage of the same weight, with six boxes for munitions and shot, so that both items will be easy to accommodate on the pack-saddles, and easy to load and unload.

Here, I have rambled on without wishing to annoy you. This always faithful and true friend wishes you health and happiness.

Chihuahua, 3 July 1810. *Salcedo* [rubric]

Received Monday, the 23rd of the same.

Señor Don Miguel Costansó[11]

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[9] A range in southern New Mexico, located between the Río Grande and the Río Pecos. *Webster's Geographical Dictionary* (Springfield, MA.: G.&C. Merriam, 1964), 969.

[10] 1 *arroba* = 11.51 kilograms.

[11] Costansó's name serves to identify him as the addressee.

[Letter 2]

Chihuahua, 27 August 1810.

My most esteemed friend: I thank you for the transporters, which I shall give to my poorest cadets, and there is now no need for you to order them to be made there, since they are now being made here.[12] All of the cadets have them as in the sample, which I again send to you as shown in drawing number 1.[13]

Let us go to the matter of the mountain cannon. I hope that you will understand that my poor and miserable knowledge of relative science might have some use as present circumstances demand, since I have no other support than my own opinions and experiences, lacking in reflection and judgment to make them certain. No, Señor Constansó, I remit to you all of drawing number 2.[14] I do not contend that I can explain myself further, nor in another fashion. During a moment of free time (which I doubt that you have), examine it, change it, remove, insert, etc., etc., and then, if I dare to make the request, not conceding anything to anyone, in the interest of all possible utility to the service we can produce this and give it form, fulfilling our desires and duties.

It is a fact that the Royal Audiencia of Mexico offered me, in goods and funds, the aid that I might request in this matter. I know your situation too well and I am sorry not to be able to offer anything more, but since you are not unaware of the wealth of these provinces and the faculties of the commandancy general, you will deduce that I have both forms of aid at hand. There are things the provinces need; these are men knowledgeable in science, with hands or implements that work intelligently, and they are capable of communicating science. God granted patience during the deluge, and in all situations.

Be certain that I am and will be always yours, and live content and with the satisfaction that I am your constant, faithful, and true friend of the heart.

Letter Number three treats the subject of the caliber of the test cannon.

Salcedo [rubric]

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[12] Transporters were probably some form of caisson or other device for transporting munitions. Copies of this design are not available.

[13] Copies of drawing not available.

[14] Copies of drawing not available.

I am very bored here and I can truly do no more. If you had to do this, you would have left it. The Comanches are risen in arms in Texas, and they are an enemy of no good and very, very nomadic. We shall see how things are handled over there in Texas.[15]

Señor Don Miguel Costansó.

[Letter 3]

Number 3.

The caliber that the cannon should have cannot be ascertained, but the one that served in the campaign conducted last year by Captain Don Juan Francisco Granados was a Castilian vara[16] long including the breech, and an inch[17] and three quarters of the same Castilian vara in caliber. This cannon is carried on rollers (as seen in Figure 1) crossed over a common pack-saddle on a mule, and it was fired from the mule with the customary effect, and the animal remained calm.

[In the margin:] the cannon should weigh at most a total of six arrobas, and give it the caliber that you wish or that it requires.

Salcedo [rubric]

[Letter 4 and Figures 1-4]

Description of the cannon and carriage that was used in the campaign last year against the Indians of the Sacramento Mountains.

Figure 1. The cannon mounted on the rollers, which are made of two boards a, b, and c, d, twenty-five inches long, seven high, and two thick, secured by four nails to the arms, e, f, and g, h, these being sixteen inches long, four and three-fourths high, and three thick. The arms e, f, and g, h have their bases t-z, oblique, and a mortise at each end, to enable them to fit well over the pack-saddle, and to be tied to the rollers, as the muleteers are accustomed to do on short loads,

[15] Postscript added by Salcedo.

[16] 1 *vara* = 838 centimeters.

[17] 1 inch = 2.3266 centimeters.

without touching the piece with the lariats, since this should not be supported by other than the trunnion plates so that in any case it can be placed on the ground without untying the load.

Figure 2. The cannon mounted on the carriage, prepared for use. This figure is drawn from observation.

Figure 3. The axle HOK of the carriage has been given a length of forty-two and a half inches, and the curvature a, b, c, is so that the wheels travel as far as possible to either side of the pack-saddles so that the carriage remains more secure, because were it made proportionate to the size of the cannon it would be necessary to place the carriage crosswise on the pack-saddle, and in such a case the load would be high and bulky, exposed to being frequently undone by branches and other obstacles that are found in the mountains.

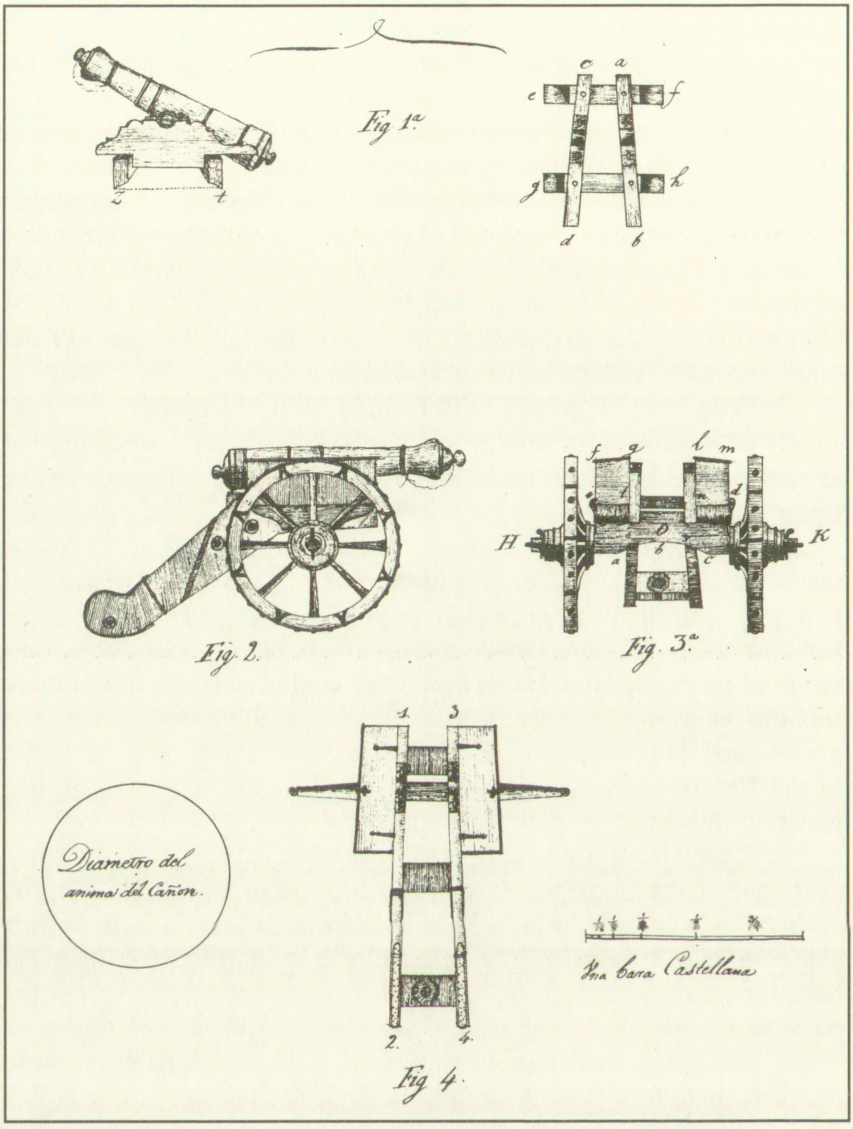
The boxes f, g, i, t, and l, m, n, d are to transport a small supply of munitions for unexpected needs, and when the loads are not at hand, these boxes are to be removed and placed as shown in the figure.

Figure 4. The carriage brackets 1, 2, and 3, 4 are fifty-one inches long, nine wide at the head staff and five at the cascabel button,[18] and an inch and a half thick. The carriage brackets have been limited to fifty-one inches because in giving them the dimensions required by the height of the wheels they could not be carried without rubbing the haunches of the mule during the climbing or descending of grades, and they would likewise interfere during the short turns found in the forests, canyons, and narrow passes in the rugged mountains generally inhabited by the wild Indians.

The wheels are twenty-nine inches in diameter, a size disproportionate to the piece, which is a Castilian vara in length. The purpose of this disproportion, however, has been to make the cannon maneuverable, because if the wheels were smaller it would be very unwieldy both for carrying as well as for aiming due to the low elevation the piece would then have.

Although the carriage brackets are short, this would not cause the carriage to turn over during recoil, since the carriage is larger than the piece requires and its weight is sufficient to steady it. Nor would the shortness of the carriage brackets be noted in aiming, in that the cannon is so light that one man may easily turn the carriage from one

[18] Round projection behind the breech of a muzzle-loading cannon.



Plans for the mountain cannon. Courtesy of W. Michael Mathes.

point to another, something that cannot be done with very heavy artillery pieces which, to facilitate their use, are given carriage brackets that are as long as possible so that they serve as a lever, for if not, no man could move the carriage at the time of aiming.

The cannon should not weigh more than six arrobas, and its caliber should be as large as that permitted by this weight with a barrel one vara in length, reinforced where necessary so that it will not burst when fired with lead or copper balls. The chamber should be spherical if possible, and to avoid recoil, the touch hole should serve as a tangent to the curve described at the base of the chamber, or, it is the same if the touch hole were to enter the chamber at the point of axis of the piece.

If it were possible to cast howitzers of this weight they would be of great utility in the campaign columns and even in the campaigns, since with them grape shot could be fired in greater quantity than with cannons, although the latter are indispensable for using smooth ball to dislocate the enemy that has occupied or is found in a dominant location.

Figures 3 and 4 are drawn with the same dimensions as that of the carriage that served in various tests, and for the measurement of the boxes and other parts refer to the scale placed between the two.

Salcedo [rubric]