

ANNEX 13
TO EXHIBIT D
(Delgado Declaration)

THE
NAVAL HISTORY
OF
GREAT BRITAIN.

FROM THE DECLARATION OF WAR BY FRANCE IN 1793
TO THE ACCESSION OF GEORGE IV.

BY WILLIAM JAMES.

A New Edition, with Additions and Notes.

VERITÉ SANS PEUIL.



IN SIX VOLUMES.—Vol. III.

LONDON:
RICHARD BENTLEY, NEW BURLINGTON STREET,
Publisher in Ordinary to Her Majesty.
1859.



ADMIRAL EARL ST VINCENT.

FROM A PICTURE BY J. H. B.

London: Richard Bentley, 1859.

du fort," gravely says the French account, "n'est que de 8 canons de 32 ou 24. On ignore le nombre de la seconde, 4 pièces de campagne avaient été transportées par les troupes sur le rivage." The latter were so, and were 12-pounders; but, as already related, could not reach the Marengo. Among other mistakes, M. Jshois states the Centurion to have carried "26 canons de 32 à la seconde batterie;" which, as she mounted "24 (or rather 22) canons de 24 à la première batterie," would, indeed, have been arming her "d'une manière extraordinaire." Her second-deck guns were 32-pounder carronades; and from the distance at which the action was fought, Captain Lind would have greatly preferred the long 12-pounders for which they had been substituted.

A half-laden merchant prize, although an Indian, or rather, as was the case, a country ship, was a sorry recompense for the defeat, and a defeat it was, which the French admiral had sustained. On the other hand, the officers and crew of the British ship gave an honourable proof of what may be done by a judicious perseverance in resisting the attack of a superior force. By conduct so laudable and exemplary, they preserved their vessel, and exalted the character of their country; and the two navies must continue to view, with very different feelings, the defence of the Centurion in Visagapatam road.

An action between the single ships of two nations at peace is rare. Still more rare is an action, under similar circumstances, between two squadrons. Should the occurrence happen, it is usually at night, when the ships find a difficulty in understanding each other's signals; but, the instant the mistake is discovered, the firing ceases, and no breach is made in the amicable relations of the two powers. Unfortunately the next action in order of date was fought between an English and a Spanish squadron, not amidst darkness, but in the open day; hot through any accident, but under express orders from the government of one of the combatants; and, so far from the matter being afterwards made up, it led to an almost immediate declaration of war by the party who had to complain of the aggression.

Without entering into a consideration of the political connection which at this time subsisted between France and Spain, it may suffice to state that, towards the latter end of the summer of 1804, the British government received intelligence, through the officer, Rear-admiral the Honourable Alexander Cochrane, in command of the squadron stationed off Ferrol, that an armament

was fitting out in that port; that a considerable Spanish force was already collected there; and that French troops were then on their march thither, and near at hand. It is true that all this was afterwards disproved by the Spanish government; but such proof could have no retroactive effect. Immediately on the receipt of Rear-admiral Cochrane's information, the British admiral despatched a squadron off Cadix, to intercept and detain, by force or otherwise, the four Spanish frigates, known to be bound to that court with an immense quantity of specie, which they were bringing from Monte-Video, in South America.

On the 3rd of October the British squadron sent upon this important service, and which consisted of the 44-gun frigate *Indefatigable*, Captain Graham Moore, 18-pounder 32-gun frigates *Medusa*, Captain John Gore, and *Amphion*, Captain Samuel Sutton, and 38-gun frigate *Lively*, Captain Graham Eden Hamond, assembled off Cape Santa-Maria. On the 5th, at 6 A.M., that caps bearing north-east distant nine leagues, the *Medusa* made a signal for four large sail bearing west by south, the wind at this time being about east-north-east. The squadron immediately wore, and made sail in chase. At 8 A.M. the strangers, which were the Spanish 40-gun frigate *Medea*, Rear-admiral Don Joseph Bustamante, and 31-gun frigates *Fama* (with a broad pendant), *Clara*, and *Mercedes*, formed the line of battle ahead, in the following order: *Fama*, *Medea*, *Mercedes*, *Clara*. At 9 h. 5 m. A.M. the *Medusa* placed herself within half pistol-shot, on the weather-beam of the *Fama*. Presently the *Indefatigable* took a similar station by the side of the *Medea*; and the *Amphion* and *Lively*, as they came up, ranged alongside the *Mercedes* and *Clara*, the *Amphion* judiciously running to leeward of her opponent.

After ineffectually hailing the *Medea* to shorten sail, the *Indefatigable* fired a shot across her forefoot: on which the Spanish frigate did as she had been requested. Captain Moore then sent Lieutenant Thomas Arcott to inform the Spanish commanding officer, that his orders were to detain the squadron, and that it was his wish to execute those orders without bloodshed, but that the Spanish admiral's determination must be instantly made. The boat not returning so soon as expected, the *Indefatigable* made a signal for her, and, to enforce it, fired a shot ahead of the *Medea*. The officer having at length returned with an unsatisfactory answer, the *Indefatigable*, at about 9 h. 30 m. A.M., fired a second shot ahead of the *Medea*, and bore

down close upon her weather-bow. Immediately the *Mercedes* fired into the *Amphion*, and in a few seconds afterwards the *Medusa* opened her fire upon the *Indefatigable*. The latter then made the signal for close battle; and it instantly commenced with all the animation, on one side at least, which the prospect of such trophies could inspire.

At the end of about nine minutes the *Mercedes* blew up alongside of the *Amphion* with a tremendous explosion. In a minute or two afterwards the *Fama* struck her colour; but, on the *Medusa's* ceasing her fire, reloaded them, and attempted to make off. The *Medusa* immediately bore up under the Spanish frigate's stern, and poured in a heavy fire, but the *Fama* continued her course to leeward. Having sustained, during 17 minutes, the *Indefatigable's* heavy broadsides, and finding a new opponent in the *Amphion*, who had advanced on her starboard quarter, the *Medusa* surrendered. In another five minutes the *Clara* did the same, and the *Lively* was left at liberty to aid the *Medusa* in the pursuit of the *Fama*. At about 45 m. past noon the *Lively*, being an admirable sailer, got near enough to fire her bow-guns at the *Fama*; and at 1 h. 15 m. p.m. this, the only remaining Spanish frigate, struck to the two British frigates in chase of her.

The force of the *Indefatigable* has already more than once appeared; that of the *Lively* was the full establishment of a 38, numbering 46 guns, and the *Amphion* and *Medusa*, each mounted 40 guns. The *Lively* had two men killed and four wounded; the *Amphion*, three men wounded, one of two of them by the splinters which fell upon her decks when her unfortunate antagonist blew up. No other loss, and but a very trifling damage, was sustained by the British ships.

The *Medusa* was a fine frigate of 1048 tons, and mounted 42 guns, 18-pounders on the main deck, and eight on the quarter-deck and fore-castle, with a complement of 300 men; of whom two were killed and 10 wounded. The three remaining frigates were each armed similar to the *Mahouetta*, except perhaps in having an additional pair of 6-pounders. The *Fama*, out of her 280 men and boys, had 11 killed and 50 wounded; the *Clara*, out of her 300, seven killed and 20 wounded; and the *Mercedes* lost, by the fatal explosion, the whole of her 280 in crew and passengers, except the second captain and about 40 men, who were taken off the ship's fore-castle after it had sepa-

¹ See vol. I., p. 299.

rated from the remainder of the hull, and except two passengers, who happened to be on board the *Medusa*.

It is therefore quite clear, that the *Indefatigable* and any two of her three consorts would have been a match, even in a time of notorious war, for these four Spanish frigates. As it was, the latter defended themselves with the characteristic bravery of Spaniards, notwithstanding that they could have been in no state of preparation, and that the melancholy loss of one of their number so early in the action increased the odds against them.

Two more circumstances conspired to invest this transaction with more odium than perhaps would otherwise have attached to it. One of those circumstances was the miserable fate of so many poor souls at the explosion of the frigate, and the heart-rending misfortune it entailed upon one, in particular, who had been a passenger on board. This gentleman, a Captain Alvear, of the Spanish navy, with his wife, four amiable daughters, and five sons grown up to manhood, had embarked in the *Mercedes*, carrying with him a fortune, estimated at about 30,000*l.* sterling, the gradual savings of 30 years' industry as a merchant in South America. Not many minutes before the engagement began, the captain and his eldest son had gone on board the *Medusa*; and there, in a very little while, did he witness the catastrophe that hurled his wife, his daughters, and his remaining sons to destruction, and sent that treasure, which was more precious in the comparison, to the bottomless deep.

The second circumstance alluded to was the tempting nature of the lading on board these vessels. The cargoes of the three captured frigates consisted of Victoria wool, cascarilla, ratina, seal-skins, seal-oil, bars of tin, pigs of copper, dollars, and ingots of gold, and netted very little short of a million sterling. Therefore, as the *Mercedes* was similarly freighted, the total value of what had been shipped on board the squadron probably amounted to nearly a third of a million more. We must not omit to state, that the British government restored to Captain Alvear, out of the proceeds of the three cargoes, the 30,000*l.* sterling which he had lost in the *Mercedes*.

Many persons, who concurred in the expediency, doubted the right of detaining these ships; and many, again, to whom the legitimacy of the act appeared clear, were of opinion, that a more formidable force should have been sent to execute the service, in order to have justified the Spanish admiral in surrendering without an appeal to arms.

The affair naturally created a great stir at Madrid, and on the 27th of November an order issued to make reprisals on English property; but it was not until the 12th of the following month that the King of Spain issued his formal declaration of war, nor until the 11th of January, 1805, that Great Britain directed letters of marque to be granted against Spanish vessels and property.

Colonial Expeditions.—West Indies.

Viewing the success of Captain Watkins at Curaçoa in September, 1800, without apparently taking into consideration, or attaching the proper weight to, the circumstances out of which it arose, namely, the occupation of the whole west part of the island by a French republican force of six or seven times the strength of the Dutch garrison, Rear-admiral Sir John Thomas Duckworth, the commander-in-chief at Jamaica, flattered himself that he had only to send up a line-of-battle ship or two, and the inhabitants would again surrender the island to the arms of his Britannic majesty.

Nor was the rear-admiral the only British officer who had taken such an idea into his head, grounded upon the same partial view of the previous surrender. When, in the middle of the year 1803, intelligence of the declaration of war against Holland reached Port Royal, Jamaica, the 10-gun schooner Gipsy, Acting-lieutenant Michael Fitton, was despatched to Curaçoa, to warn any British cruisers that might be lying there of what had taken place, in order that they might provide for their safety. Arriving in the harbour of St. Ann, the Gipsy found at anchor there the 18-gun ship-bloop Surinam, Captain Robert Tucker. To this officer, in as secret a manner as he could, Lieutenant Fitton communicated the intelligence; and advised him immediately to get under way. "No," says Captain Tucker, "I'll summon the fiscal to surrender the island to me." In vain did the lieutenant represent the folly of such a proceeding; in vain did he point to the numerous batteries around the harbour: Captain Tucker went on shore, and made his proposal in form. The Dutch authorities had received no official account of the war; but they took the captain's word, and not only his word, but his sword, and his ship, and all that were on board of her. Knowing well what would happen, Lieutenant Fitton, in the mean time, had weighed and stood out; and the Gipsy was soon chased off the port by two armed

¹ See p. 36.

vessels of superior force, which, in consequence of Captain Tucker's imprudence, had been despatched in pursuit of her.

In the early part of December, 1803, the 74-gun ship *Theseus*, Captain John Bligh, arrived at Port Royal, Jamaica, from the mole of St. Nicholas. On the 17th Captain Bligh received an order directing him to proceed on the ensuing day off the city of Santo-Domingo, and, in company with the 74-gun ship Vanguard, Captain James Walker, previously stationed there, to blockade the port. Should the French in possession of the town propose capitulation, Captain Bligh was authorized to treat with them, and was at the same time verbally informed by Sir John Duckworth, in strict confidence, that he would receive an order by the 74-gun ship *Hercule*, Captain Richard Dalling Dunn, to attack the island of Curaçoa; but that it was not his, Sir John's, intention that the safety of the line-of-battle ships should be risked by attempting to force the harbour of St. Ann.

On the 18th, the *Theseus* sailed from Port Royal, and before the end of the month arrived off the city of Santo-Domingo; but the Vanguard was not there, nor, in fact, did that ship join at all. On the 15th of January, 1804, Captain Bligh received his orders by the *Hercule*, and by them was directed, taking with him the three 74s, already named, also the 18-pounder 36-gun frigate *Blanche*, Captain Zachary Mudge, and *L'ique*, Captain William Bayne Hodgson Ross, and the 10-gun schooner *Gipsy*, Acting-lieutenant Michael Fitton, to proceed without a moment's loss of time off the island of Curaçoa; "having," says Sir John, "received certain information that the garrison of Curaçoa had not been strengthened since the commencement of the war, and consists only of 160 troops, with a frigate in the port whose officers and crew are said nearly all to have fallen victims to the climate." Captain Bligh is then directed to summon the island to surrender to his majesty's arms upon liberal conditions. In case of a refusal, and that he should have no reason to believe there had been any augmentation of the garrison, Captain Bligh is to land a part of the crews of the ships. Then follows this nugatory salvo: "But it is my duty to caution you by no means to hazard more than the object is worth." Nugatory, indeed; for by what standard was the relative value of the object and the means to be measured?

With his two 74s, two frigates, and one schooner, and with no other knowledge of the state of Curaçoa than was contained in the paragraph already quoted from his orders, and with his

¹ See p. 308.

ANNEX 14
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ANNEX 15
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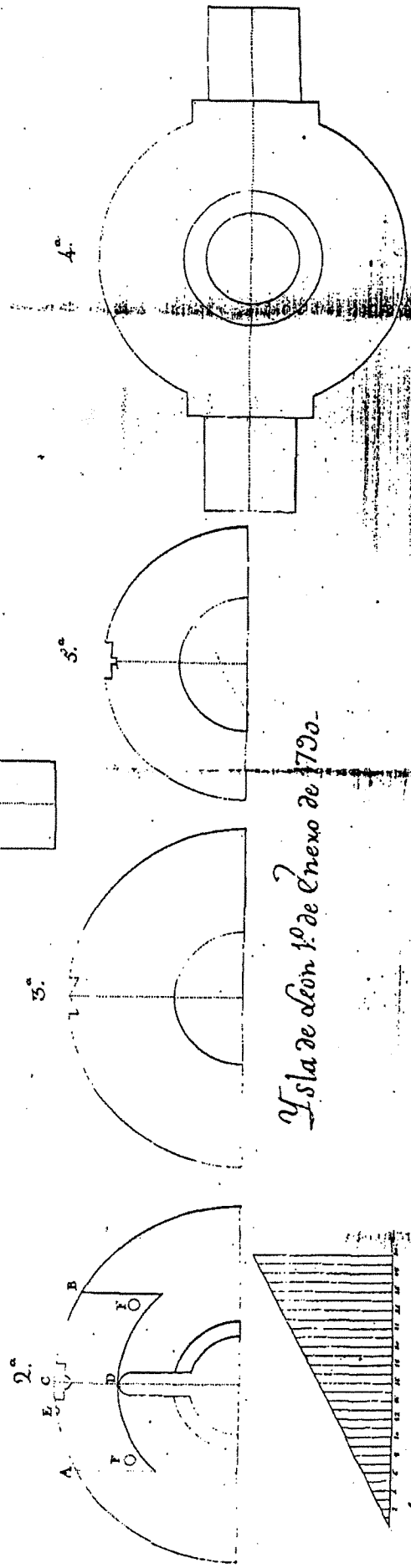
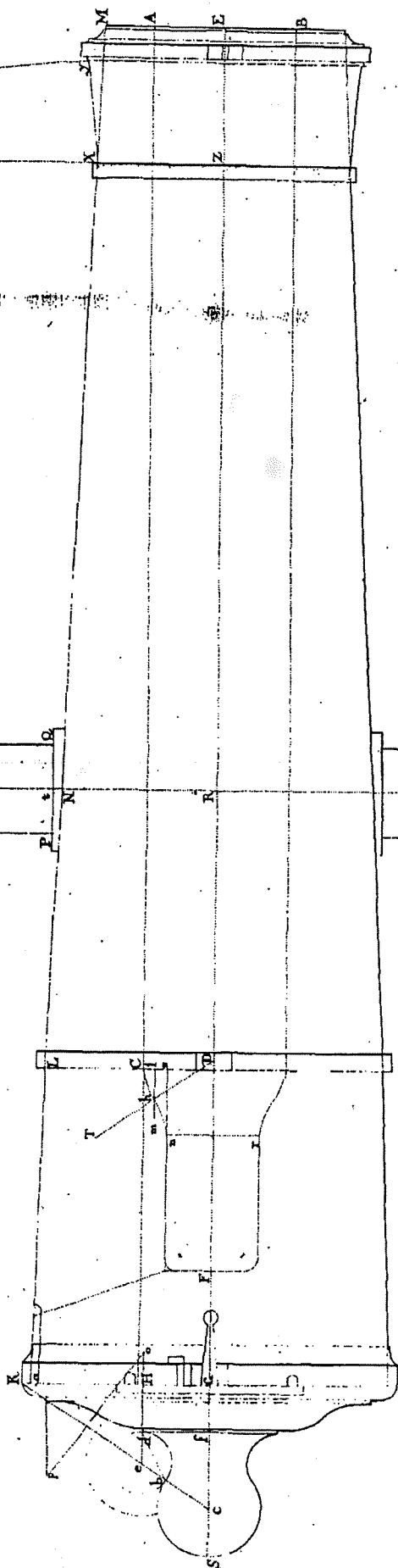
A. 4



VISO 4313

Diseño de un Obús de hierro del Calibre de 24.

Fig. 5.



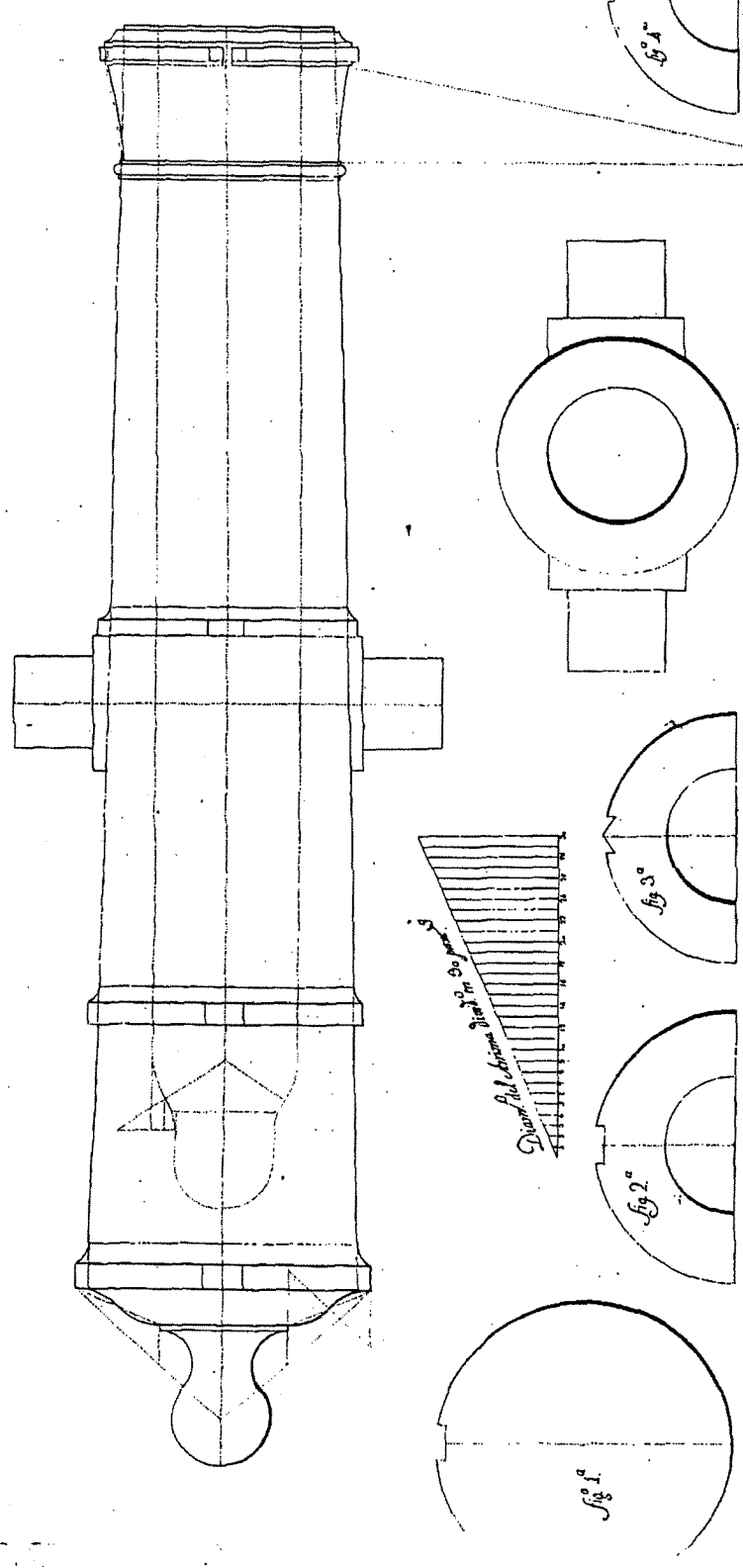
Ysla de Leon 10 de Enero de 1790.

Francisco Xavier Arriola

Diam. de la anima dividida en 3a partes.

ANNEX 16
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DISEÑO DE UN OBRIS DEL CALIBRE DE A 3, CON SUS DIMENSIONES EXPRESADAS EN CALIBRES Y PARES DEL DIAMETRO DEL ANIMA DIVIDIDO EN 30 PARTES SIMILARES.



Calibre (Pares)	Forma	Forma (Pares)	Forma (Pares)	Forma (Pares)	Forma (Pares)	Forma (Pares)
20
21
22
23
24
25
26
27
28
29
30

Los autores se acuerdan el acordar el calibre de A 3, con sus dimensiones expresadas en calibres y pares del diametro del anima dividido en 30 partes iguales.

El calibre de A 3, con sus dimensiones expresadas en calibres y pares del diametro del anima dividido en 30 partes iguales, se usará en el calibre de A 3, con sus dimensiones expresadas en calibres y pares del diametro del anima dividido en 30 partes iguales.

Los autores se acuerdan el acordar el calibre de A 3, con sus dimensiones expresadas en calibres y pares del diametro del anima dividido en 30 partes iguales.



ANNEX 17
TO EXHIBIT D
(Delgado Declaration)

CERTIFICATE OF ACCURACY

I, Miriam A. Bodenheimer, hereby certify that I am fluent in Spanish and English and that the following is, to the best of my knowledge and belief, a true and accurate translation of the accompanying document "Notice of Arrival" from Spanish to English.


Miriam A. Bodenheimer

8 June 1804

Don Tomas de Ugarte y Liaño, Squadron Leader and Commander of a Division of three Frigates, Mercedes, Clara and Asunción.

Gives notice of his arrival in Montevideo from El Callao, and remains at the orders of [the officer] of equal rank Don José de Bustamente y Guerra.

Most Excellent Sir

Gives notice of his happy arrival to Montevideo after 66 days of navigation from El Callao and of the division of Lima remaining under orders of Squadron Leader Don Josef Bustamante.

P

[illegible]

On the night of the 5th of the current month, I anchored in this Port with the Division under my command after 66 days of navigation from El Callao, without any particular occurrence during the voyage, or on the 3 vessels as expressed in their attached registries; and in compliance with the Royal resolution of last 31 July which the Squadron Leader Don Josef de Bustamante y Guerra communicated to me, these vessels[,] which H[is]M[ajesty] nobly decided to entrust in me in another sovereign decision of the same date[,] from today onward remain under [Bustamante's] orders, which I notify to Y[our]E[xcellency] for the knowledge of H[is]M[ajesty].

May Our Lord keep Y[our]E[xcellency] many years. Frigate Mercedes in Montevideo 8 June 1804.

Most Excellent Sir
Tomás de Ugarte y Liaño

Most Excellent Sir Don Domingo Grandallana

General Registry of the Frigate of the King Nuestra Señora de las Mercedes armed with 38 cannons which enters today to the Port of Montevideo
 Under the command of Battleship Captain Don Josef de Goycoa in convoy with the Frigates Asunción and Clara

Rank and Names of Officers of War		Midshipmen		Classes and Names of Major Officers			Artillery and Munitions			Small arms and artifacts						
General		Miguel de Yrizarre	Juan Noboa	Accountant	Ignacio de la Corcova	Cannons of 12.....26 <i>Id.</i> of 6.....4	Cannons of 12.....26 <i>Id.</i> of 6.....4	Pounds of led bullets.....362 [...]								
Co- mmander of the Division & Squadron Leader	[] Tomas de Ugarte y Liano	Bernardino Erquia	Toribio Salcedo	Master of Silver	Vicente Murrieta	Obuses of 24.....8 <i>Id.</i> of 3.....12	Obuses of 24.....8 <i>Id.</i> of 3.....12	Rifles.....34 Bayononetes.....34								
Lieutenant [...]	Miguel de Sierra	Pedro Landázuri	<i>Aventurero</i> Manuel Vargas	Priests	Jacinto Rivera Pedro Pardo	Cannonballs of 12.....1040 [...]	Cannonballs of 12.....1040 [...]	Pistols.....68 Swords.....68 [...]								
Lieutenant	Pedro Mosti	Mamuel Altuna		2d Pilot	Ramón Villarino											
Secretary of the Lieutenant				3rd <i>Id.</i>	Isidro Caycova José de Castro											
Assistant Lieutenant	Joaquin Villalba	Juan García		1st Surgeon	Gaspar Botest											
Lieutenant Junior Grade	Pedro Navarrete	Ángel Ballester		2d <i>Id.</i>	Jerónimo Agustino											
Marines	<i>Id.</i>	Luis Abello														
	<i>Id.</i> of Artillery	Guard officers & divers	Carpen- ters	Caulkers	Sail Masters	Gun- smiths	Boat skippers, [...]	Lead Gunners	Ordinary Gunners	Sailors- in- training	Sailors	Cabin boys	Provision dispensers	Total	Dimensions and [illegible] in Feet and Inches of [illegible]	
63	18	8	3	4	2	2	4	9	42	103	51	7	3	319	[...]	
		1. 1st Comman- der 2. 2d [illegible]			1. 1st Master		Spare from Regulation			43						
		1. 2d [illegible]			2. 2d <i>Id.</i>	Absent from Regulation I. Lamp- lighter	Absent from Regulation		13	4	4		[illegible]			
Inspection [illegible]											[illegible] of Engineer					3400 Ordinary rations for 104 days in accordance with 345 positions. [...]
[...]											[...]					[...]

Notes

1a. [...]

2d. It transports on account of H[is M]ajesty] 221,000 pesos, 20 boxes of husk, 20 [illegible] of Vicuña wool, 1132 Quintiles of Tin, 961 of Copper and two discarded bronze culverins. On account of particulars 587,000 [pesos in] coin and 3000 in worked silver and in soldiers' pay 142000[,] which in total make up 953,000 pesos.

3a. One of the marine troops died during navigation.

On board the aforementioned Frigate anchored at the Port of Montevideo on 5 June 1804.

Josef Goycoa

8 de Junio de 1804.

D. N. Tomas del Gasté y Liño. Jefe de
Escuadra, y Comandante de una División
de tres Fragatas, Mercedes Clara y Asunción

Participa su llegada a Montevideo desde
el Callao, y queda á sus ordenes del de igual
clase D. N. José de Bustamante y Guerra.
D. N.

Com. S.

Participa su feliz arribo
al Montevideo á los 66 dias
de Navegacion desde el
Callao y de quedar con
la Division de Lima
las Ordenes al Jefe
de Esquadra D.^{no} Torres
Bustamante.

P.

Lo como Vuelvo

En la noche del 5 del corriente fondé en este Puerto
con la Division de mi cargo á los 66 dias de Navegacion
desde el Callao, sin Ocurrancia particular durante ella,
ni en las 3 Fragatas segun expresan sus adjuntos Es-
tados; y en cumplimiento de R. R. Resolucion de 31 de
Junio ultimo que me ha comunicado el Jefe de Es-
quadra D.^{no} Torres Bustamante y Guerra, quedan
desde hoy á sus Ordenes estos 3 Cameler que S. E. E.
se digno confiarne en otra soberana Determinacion
de la misma fecha, lo que participo á V. E. C.
para inteligencia de S. E. E.

Atto S. Jefe a V. E. C. m. d. Fragata Estrecher
en el Montevideo 8 Junio 1804.

Com. S.

Juan de Garte y Liano

Com. S. D. Domingo Grandellana

Notas

19. Se lleva en la expresada Dija con motivo de su Cargamento y efecto que conduce de la I.R. Hacienda, siendo en Nación como Cabos de Cabos 17. Lias y 6. Pulgadas de Laja, 18. Lias y 8. Pulgadas de Laja y 8. Pie y 4. Pulgadas. x. Diferencia al meter el cable en q. valis, se ha notado mayor el mar y onzavero pues en las comparaciones que se han ofrecido con las Fragatas Clara y Arumpesin se ha conocido alguna diferencia con igual aparato en todas porciones menos en la x. Velura con Neno fresco, que en esta nos heing mantenido con ellas aun con el Equia Nueva.
20. ... Conduce por quintero x. S.M. 22,000 pesos. 20. Casaca x. Casaca 1152. Quintero x. Lirano, 261 x. Caboy. de Culebrina. Excluidas x. Branca. Dr. quintero x. Particularas 587,000. Acumado y 3000 en Plata labrada y en Casaca x. Branca y 11,200 que componen en el Total 253,000 pesos.

21. ... Falloco en la Navegacion un Indiviso de Armanera

Abord de la expresada Fracata al Ancla en el Puerto de Montevideo a 24 Junio x. 1804 =

M. J. Poyano

ANNEX 18
TO EXHIBIT D
(Delgado Declaration)



THE
SPANISH ARMADA

COLIN MARTIN & GEOFFREY PARKER

GUILD PUBLISHING LONDON

18

This edition published 1988 by
Guild Publishing
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Designed by Cinamon and Kitzinger
Maps drawn by Reginald and Marjorie Piggott
Typeset by Goodfellow & Egan Phototypesetting Ltd, Cambridge
Printed in Great Britain by
Butler & Tanner Ltd, Frome and London

ARTILLERY

Any attempt to classify sixteenth century artillery carries with it the danger of implying that precise specifications for each type were widely accepted. They were not. In spite of various attempts to impose standards – that by Charles V in 1549 is the best known – guns of the early modern period are in the main remarkable for their individuality and profusion of forms.

Even contemporaries were dismayed by the lack of ordered classification which resulted. ‘Through an intolerable fault’, wrote Cyprián Lucar in 1587, ‘all our great pieces of one name are not of one weight, nor of one height in their mouths’. This difficulty was echoed in 1592 by the Spaniard Luis Collado, who noted that the guns in Milan Castle needed more than 200 different sizes of charging implements when 11 would have served had the guns been properly standardised. The problems created by unstandardised shot, he added, were just as serious. Gunners who sailed with the Armada would certainly have agreed with him.

Nevertheless, despite the almost limitless variety of forms sixteenth century ordnance might take, gunners usually applied quite specific names to particular types of gun. These names do not, however, imply any absolute precision of definition, for no such definition existed. The important factors are the weight and type of metal of which the gun was made; the charge it could bear; the weight and composition of the projectile fired; the proportion of projectile weight to gun weight; and the length of the barrel expressed as a multiple of its calibre. Beyond that, as one of the wisest of the sixteenth century technical authors put it: ‘It does not matter what their names may be, except to know their sorts and kinds.’

An attempt must however be made, for descriptive convenience if nothing else, to group the various ‘sorts and kinds’ into named families. It is simplest to consider the Spanish side first. The Armada documents provide general parameters of classification for each named type and group of types as they were understood by contemporary Spaniards, and this classification is summarised below. The range of shot-weights for each group is taken from the maximum and minimum figures specified for the guns allocated to that group within the fleet. This summary is followed by a systematic sampling of actual guns, either recovered from Armada wrecks or redrawn from reliable contemporary sources.

Family	Type name	Shot-weight (in Castilian <i>libras</i>)
CAÑONES (heavy shotted guns 25 calibres or less in length)	Cañón de batir	40–50 iron
	Cañón	28–35
	Medio cañón	15–27
	Tercio cañón	10–14
	Quarto cañón	9–12
	Cañoncete	10
PEDREROS (short-barrelled stone-throwers with reduced powder chambers)	Cañón pedrero	12–20 stone
	Medio cañón pedrero	10–12
	other pedreros	4–12

CULEBRINAS (Light-shotted guns 30 or more calibres in length)	Culebrina	16-21 iron
	Media culebrina	7-14
	Sacre	5-8
	Medio sacre	3-4
	Falconete	2-4*
	Media falconete	1-1*
	Falcon	1-3*
		*often swivel mounted
MAN-KILLERS	Falcon pedrero	3-6 stone
	Esmeril doble	12ozs iron or lead
	Esmeril	6-8ozs iron or lead
OBSOLESCECENT	Verso	1-3 iron
	Pasamuro	1-2 iron
	Lombarda	4-7 stone

EXAMPLES OF GUNS (pages 218-22)

The bronze muzzle-loading guns, numbered 1-12 (pages 218-19), are drawn to a common scale. A larger scale has been used for the smaller swivel pieces and iron guns, numbered 13-21 (pages 220-22). Wherever possible the guns shown come from one or other of the Armada wrecks, but where a particular type is not available the gap has been filled with an example drawn from a reliable contemporary source. Each gun is given the name which reflects, as closely as possible, late sixteenth century Spanish usage. Its origins, decoration, and any inscriptions are described, and its technical specifications summarised: weight and shot-weight (in Castilian *libras* of 460 grams: where necessary gun weights specified to other standards have been adjusted to conform); bore (in inches to facilitate comparison with English examples); length from muzzle to base ring (also in inches); bore/length ratio; and shot-weight/gun weight ratio. It should be noted that these calculations depend in part upon a number of factors which are variable and not always predictable, so in some respects the specifications presented here are arbitrary.

Shot diameters were normally one twentieth smaller than the gun bore to allow sufficient windage.

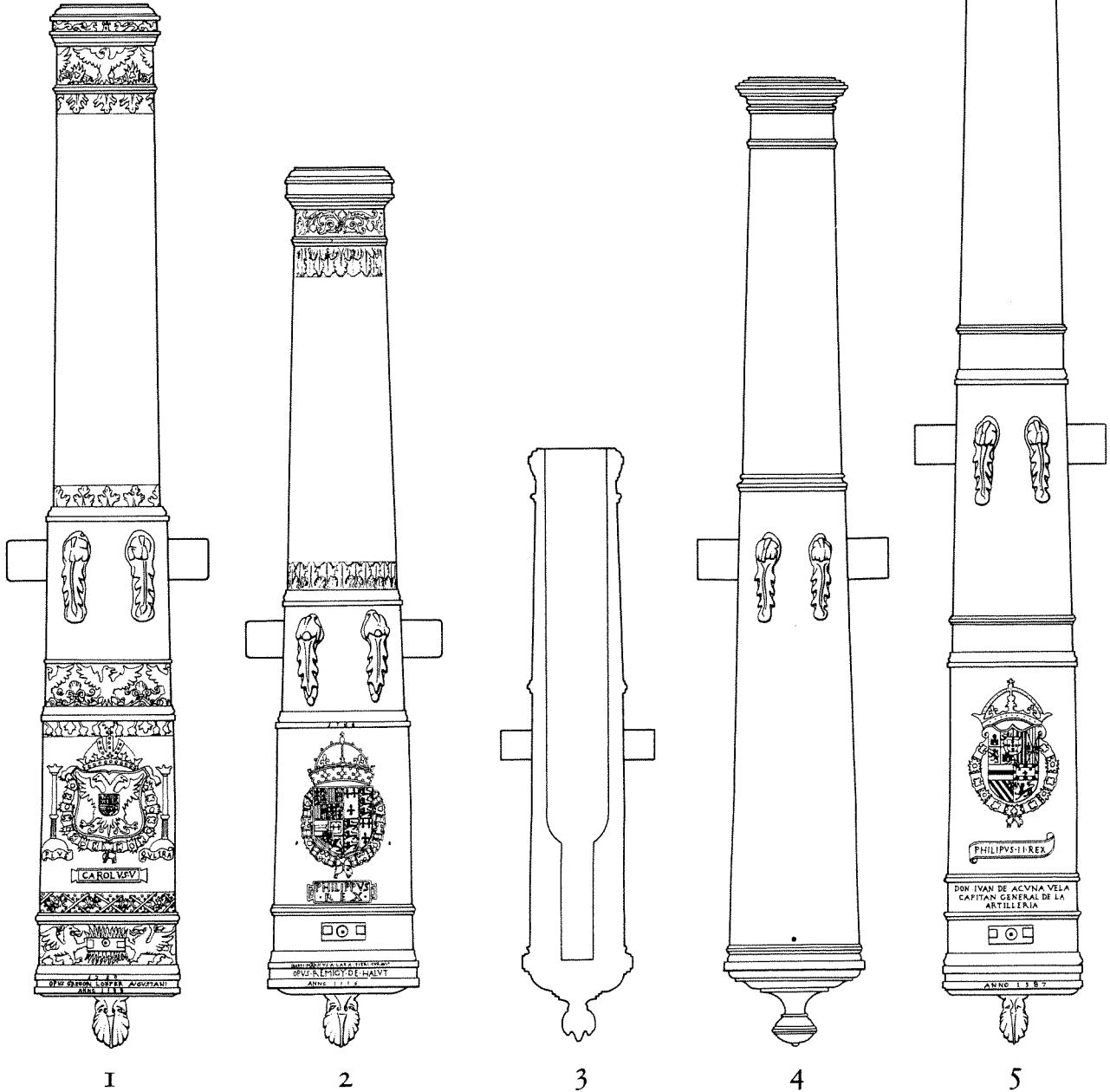
1. *Cañón de batir* by Gregorio Lefer of Augsburg, cast for Charles V in 1538. It carries the Emperor's full insignia. This drawing is based on a detailed diagram submitted to Philip II in 1587 (AGS MPyD V-18): the gun itself, identified by its weight mark, served in the Armada. It was originally shipped in the Levanter *Juliana*, but was later transferred to the squadron flagship *Regazona* (AGS CS 2a/280 fos 1504-6).
Weight 5230lbs; shot-weight 38lbs (iron); bore c.7"; length 127.5"; bore/length 1:18.2; shot/gun weight 1:138.
2. *Cañón de batir* by Remigy de Halut of Mechelin, cast for Philip II in 1556. It carries the joint arms of Philip and Mary Tudor, and the name (latinised) of Don Juan Manrique de Lara, Captain-General of Artillery. This gun was recovered from the

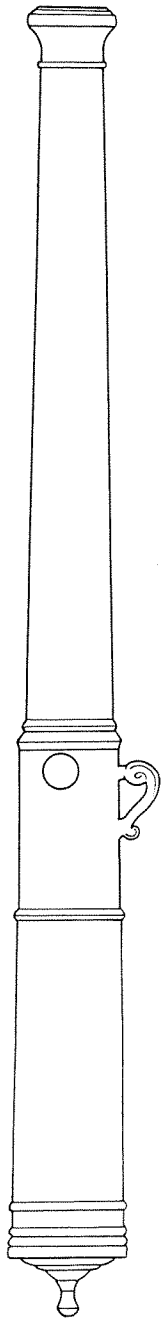
- wreck of *La Trinidad Valencera* in 1987, although its presence aboard had already been confirmed by the record of its weight mark in the ship's lading documents (AGS CS 2a/280 fo 1461). The same gun is illustrated in AGS MPyD V-18 (see above).
Weight 5186lbs; *shot-weight* 41lbs (iron); *bore* 7.2"; *length* 106"; *bore/length* 1:14.7; *shot/gun weight* 1:126.
3. 8" *pedrero*, based on Luis Collado's proportions of 1592. Note the narrow powder chamber and the thin-walled main barrel characteristic of these pieces: the combination permitted a large diameter projectile of low mass to be fired.
Weight c.2000lbs; *shot-weight* c.20lbs (stone); *bore* 8"; *length* 67"; *bore/length* 1:8.4; *shot/gun weight* 1:100.
 4. *Medio cañón*, from a drawing in the 1587 discussion paper (AGS MPyD V-19).
Weight c.3500lbs (by Juan de Acuña Vela's calculation, which is certainly an under-estimate); *shot-weight* 20lbs (iron); *bore* c.5.5"; *length* 114"; *bore/length* 1:20.7; *shot/gun weight* 1:175.
 5. Full *culebrina*, from an illustrated casting specification issued by Don Juan de Acuña Vela, Captain-General of Artillery, on 25 July 1587 (AGS MPyD V-16). The piece was to be decorated as shown. It was to be cast from a mixture of 92% Hungarian copper and 8% English tin.
Weight 6000lbs; *shot-weight* 18lbs (iron); *bore* c. 5.25"; *length* 158"; *bore/length* 1:30; *shot/gun weight* 1:333.
 6. *Media culebrina* from *El Gran Grifón*, one of the four utility pieces issued to the ship at Lisbon just before the Armada sailed (see p 40). It carries no decoration or inscriptions. This gun's bore is grossly off-centre.
Weight c.2400lbs; *shot-weight* 9lbs (iron); *bore* 4.25"; *length* 139"; *bore/length* 1:32.8; *shot/gun weight* 1:267.
 7. *Medio sacre* from *El Gran Grifón*, evidently from the same utility batch as above.
Weight c.800lbs; *shot-weight* 2.8lbs (iron); *bore* 2.9"; *length* 90"; *bore/length* 1:31; *shot/gun weight* 1:286.
 8. *Medio cañón* bearing the monogram and attributes of Francis I of France, recovered from the wreck of the *San Juan de Sicilia* in Tobermory Bay c.1740. It is now at Inveraray Castle.
Weight (by mark) 3253, (by estimation) 3154lbs; *shot-weight* 23lbs (iron); *bore* 5.8"; *length* 112.5"; *bore/length* 1:19.4; *shot/gun weight* 1:137.
 9. Italian *media culebrina* from *La Trinidad Valencera*, perhaps by Nicolo di Conti of Venice.
Weight (by mark) 2950, (by estimation) 3025lbs; *shot-weight* 13.5lbs (iron); *bore* 4.9"; *length* 120"; *bore/length* 1:24.5; *shot/gun weight* 1:224.
 10. Italian *sacre* from *La Trinidad Valencera*, by Zuanne Alberghetti of Venice.
Weight (by mark) 2529, (by weighbridge) 2596lbs; *shot-weight* 6lbs (iron); *bore* 3.75"; *length* 129"; *bore/length* 1:34.4; *shot/gun weight* 1:433.
 11. Italian *sacre* from the *Juliana*, possibly Sicilian, dated 1570. On its breech is an ecclesiastical figure with crook and mitre, beneath which appears the name S[AN] SEVERO. A letter D, presumably the initial of the founder, surrounds the touch-hole. This gun has suffered an explosive blow-out close to the muzzle (see p 205).

Weight (by mark) 2082, (by estimation) 1800lbs; shot-weight 5lbs (iron); bore 3.5"; length 118"; bore/length 1:33.7; shot/gun weight 1:

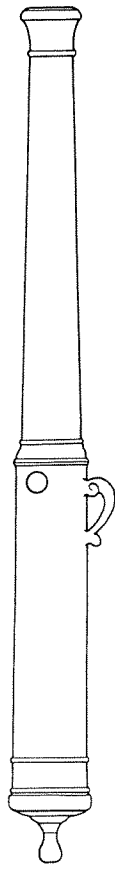
12. Italian *pedrero* from the *Juliana*, possibly Sicilian. On its breech is a Virgin and Child, and its touch-hole carries a letter D similar to that on the *sacre* above.

Weight (by estimation) 900lbs; shot-weight c.7lbs (stone); bore 5.8"; length 64.5"; bore/length 1:11.1.

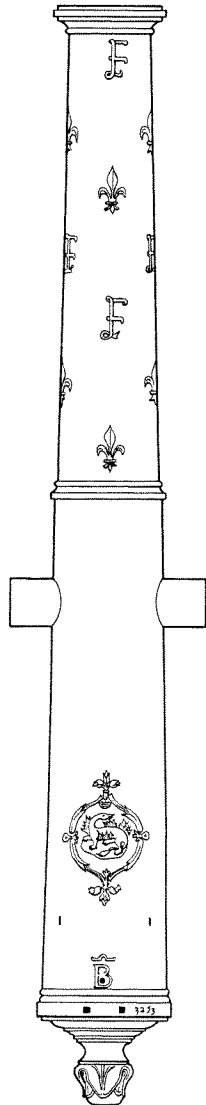




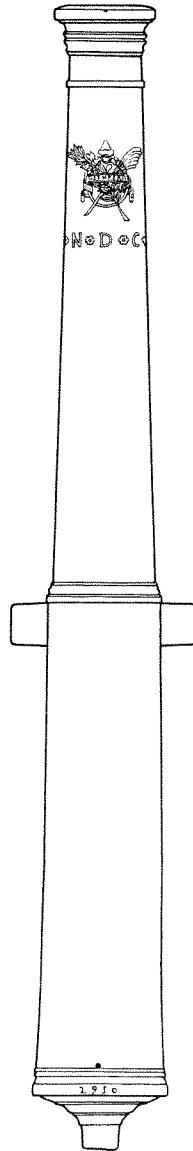
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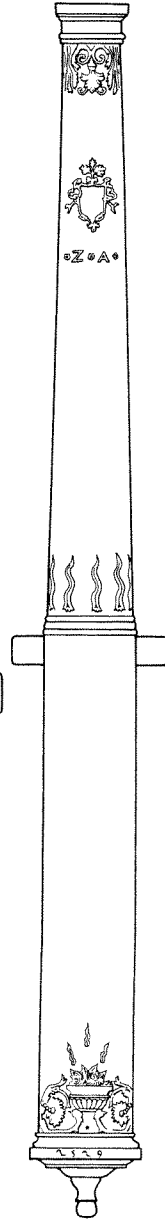
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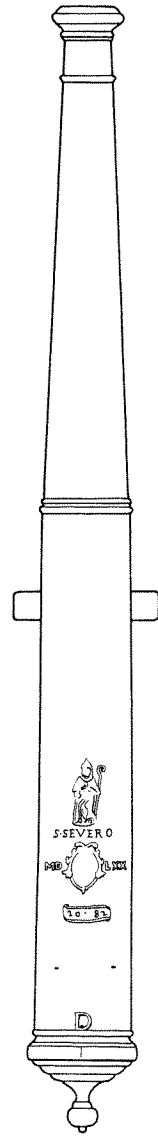
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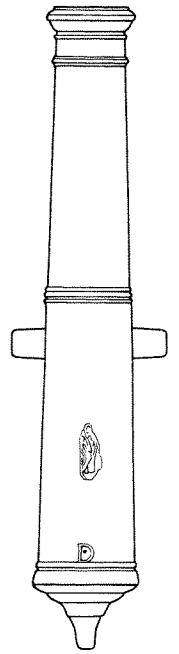
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11



12

ANNEX 19
TO EXHIBIT D
(Delgado Declaration)



HERMENA DE TAZON BRONCE

ANNEX 20
TO EXHIBIT D
(Delgado Declaration)

