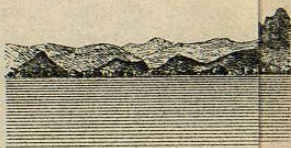
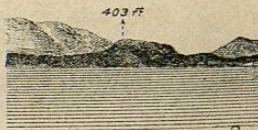


Plate XVIII.



Point
NW by N.



Car
E.S.

a rocky, bluff point of moderate height, with a mound 125 feet high immediately back of it.

The mouth of the Piastla River is 4 miles to the south-eastward of the rocky, bluff point just described and 3 miles N. $12^{\circ} 30'$ E. (N. $\frac{1}{4}$ E. mag.) from Point Piastla. Like the Elota, it is a mere creek until the rains convert it into a torrent. Near the mouth of the river is a thick growth of trees and bushes, and good water may be obtained there.

The village of Piastla is about 20 miles up the river.

Point Piastla is the southernmost of two rocky head-lands lying about a mile apart, in a NNE. and SSW. direction. It is 156 feet high, and has a reef extending from it a short distance to the southward and westward. (View on opposite page.)

A sweep in the coast line between the mouth of the Piastla River and the northernmost of the two head-lands forms a small bay or indentation, open to the north-westward, where vessels that come here for dye-wood anchor, in 5 or 6 fathoms, about a mile from the shore.

A short distance eastward of the extremity of the northernmost head-land is a landing pier with some huts back of it. On a hill back of the pier is a signal pole.

On a line between Point Piastla and the mouth of the river of the same name, a quarter of a mile from the northernmost point before mentioned, is a white, rocky islet 35 feet high.

Drinkable water may be obtained at a short distance from the beach, from a lagoon, which is dry during the months of March, April, and May. Two wells sunk on the shore of this lagoon serve as cisterns or reservoirs.

"Not far from the landing-place is a fertile plain, where cattle may be obtained." (*Annales Hydrographiques*, 1867.)

The magnetic variation is $9^{\circ} 45'$ E. (approx.). Tides rise about 5 feet.

The coast south of Piastla Point has the same general trend as that to the northward, and is for the most part low, sandy, and free from outlying dangers.

About $1\frac{1}{4}$ miles south-eastward of Piastla Point there is a bluff 80 feet high, and 2 miles farther on is a shoal extending nearly half a mile off shore, over which the sea breaks.

Grueza Point, $13\frac{3}{4}$ miles south-eastward of Piastla Point, is a rocky bluff, surmounted by a hill 77 feet high. About

Piastla River. ✓

Piastla. ✓

Point Piastla.

Anchorage. ✓

Pier. ✓

Islet. ✓

Supplies. ✓

Variation.
Tides. ✓

Bluff and shoal. ✓

Grueza Point. ✓

midway between it and the shoal just mentioned is an arroyo, and 2½ miles south-eastward of the point is another.

✓ Roja Point.

Roja Point, about 5 miles below Grueza Point, is a low, very slightly-projecting, bluff point, with low land back of it.

✓ Camaron Point.

Camaron Point, a little more than 8 miles south-eastward of Roja Point, is a rocky bluff about 50 feet in height, with a hill of reddish color, 403 feet high, 2 miles to the eastward.

Between Camaron Point and the harbor of Mazatlan are several prominent islands and rocks, the former serving as land-marks in making Mazatlan. (View opposite page 175.)

✓ Pajaros Island.

Pajaros Island, the northernmost of the above-mentioned islands, is about 3½ miles south-eastward of Camaron Point and less than half a mile from the nearest point of the main-land (Arenilla Point). It is about 4 cables in extent each way and 467 feet high.

Between Arenilla Point (abreast of Pajaros Island on the main-land) and Mazatlan there are several lagoons, some of which are said to be of fresh water.

✓ Panamá Rock.

Panamá Rock, which is shown on some charts about 7 miles westward of Pajaros Point, does not exist.

✓ Venado Island.

Venado Island, a mile to the southward of Pajaros, is rather larger than the latter, but of the same character—rocky and barren. Its highest peak has an altitude of 587 feet.

The southern part of Venado is connected with the main body by a narrow neck of land called El Cuello. A detached rock, called Estrella Rock, lies about 75 yards south of the southern extremity of the island.

The channel between Venado and the main land is a little over half a mile wide, and 2½ fathoms of water may be carried through it.

✓ Creston Island.

Creston Island forms the western side of the outer harbor of Mazatlan. It is 4 cables in length, nearly N. and S., about 2 cables wide, and 470 feet high, with a shore line consisting for the most part of steep, rocky bluffs. Within a mile to the north-westward of it are several islets and rocks, the most prominent of which are the North and South Hermanos and Tortuga Rock.

✓ Light.

A fixed white light, visible about 20 miles, is shown from a square white tower, which rises from the centre of a white building situated on the summit of Creston. Loaded

vessels entering the port are taxed for the maintenance of the light; vessels entering in ballast are exempt.

Azada Island lies north of Creston, between it and Pala Point, the southern extreme of the peninsula on which Mazatlan is situated. The channels on either side of it are not navigable by any except the smallest class of vessels; that on the south side is unsafe even for boats, being full of rocks.

The available part of the harbor of Mazatlan is of small extent, and includes the space lying between the islands of Creston on the west and Ciervo on the east.

It affords good protection from the north-westerly winds, but is entirely open to the southward, and is a dangerous anchorage for sailing vessels, during the rainy season.

There is an inner harbor which can be used by vessels of 5 or 6 feet draught.

Ciervo Island, on the eastern side of the anchorage in Mazatlan Harbor, is similar in appearance to Creston and about half as high; it is partially covered with trees. Gama Island, 160 feet high, lies 4 cables east of Ciervo.

Black Rock is a small rock about 10 feet above water, over which the sea generally breaks. It lies just outside of Mazatlan Harbor, on the following bearings, viz: Highest peak of Creston Island N. 34° 15' W. (NW. ½ N. mag.); highest peak of Ciervo N. 16° 45' E. (N. ½ E. mag.); highest peak of Gama N. 45° E. (NE. ¼ N. mag.). The soundings in the vicinity of Black Rock show from 12 to 14 fathoms close to it, shoaling gradually toward Creston and Ciervo Islands and the anchorage between them.

Blossom Rock is a dangerous pinnacle rock, with but 1¾ fathoms of water on it (according to some reports it has but 3 feet of water over it) at low water. It lies in the outer part of the harbor, a little east of the best anchorage for large vessels, on the following bearings, viz: Signal station on hill north of Pala Point N. 27° 30' W. (NW. ⅝ N. mag.); south bluff of Creston Island N. 90° W. (W. ⅞ S. mag.); Black Rock S. 7° W. (S. ¼ E. mag.). Blossom Rock is generally marked with a flag buoy, but this mark should not be trusted, as it is frequently out of position. Capt. W. H. Parker, of the P. M. S. S. Co.'s service, says that it disappears at high water.

Azada Island. ✓

Mazatlan Harbor. ✓

Inner Harbor. ✓

Ciervo Island. ✓

Gama Island. ✓

Black Rock. ✓

Blossom Rock. ✓

Buoy. ✓

✓ Guide. A sure guide for clearing the rock is to keep Monte Silla open to the westward of Ciervo Island.

✓ Monte Silla. Monte Silla is a conspicuous saddle-shaped hill 256 feet high, situated on the point of the main-land, a little over half a mile north-eastward of Ciervo Island.

✓ Anchorage and directions. A good berth is in 8 or 9 fathoms of water, with South Bluff (Creston Island) bearing S. 86° W. (WSW. $\frac{3}{4}$ W. mag.) and the Signal Station on a hill northward of Pala Point N. 16° W. (NNW. $\frac{1}{4}$ W. mag.). To pick up this anchorage, when coming from the westward, pass the South Bluff of Creston Island at a distance of 100 yards and steer N. 77° E. (ENE. mag.), heading for the highest part of Gama Island; anchor when the Signal Station bears N. 16° W. (NNW. $\frac{1}{4}$ W. mag.). Black Rock will then be just passing the beam, and bearing S. 11° E. (S. by E. $\frac{1}{3}$ E. mag.).

The town will come into view shortly before getting on these bearings.

Coming from the southward, pass west of Black Rock, giving it a berth of 1 cable (200 yards), and steer north (N. $\frac{7}{8}$ W. mag.), until South Bluff (Creston Island) bears S. 86° W. (WSW. $\frac{3}{4}$ W. mag.), when anchor, the other bearings being the same as before.

✓ Caution. It must always be remembered that Monte Silla, open to the westward of Ciervo Island, clears the Blossom Rock. (*View approaching Mazatlan from the southward on opposite page.*) Should it be desirable to anchor nearer to the town, steer N. $\frac{1}{4}$ E. (mag.) from the anchorage just described and be guided by the lead; the soundings decrease regularly up to 15 feet.

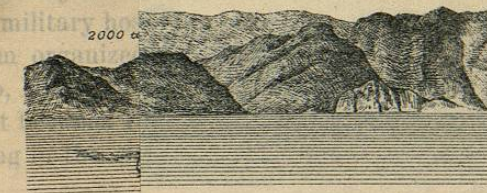
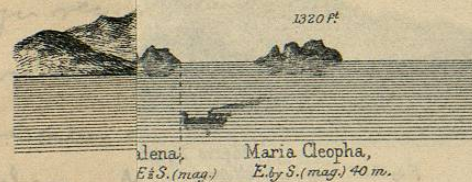
✓ Caution. During the bad weather season, September and October, it may be well to anchor farther out, or to the north-westward of Creston, where there is more room for getting under way, with a chance for sailing vessels to stand out clear of the land, in the event of being obliged to get under way.

✓ Landing. In approaching the pier off the custom-house, strangers should give the shore a good berth and pull for the end of the pier, as there are several sunken rocks lying a short distance off, on which boats would strike at half tide.

✓ Inner Harbor. The inner or northern part of Mazatlan Harbor is full of sand bars and shoals. It can only be used by vessels of the smallest class.

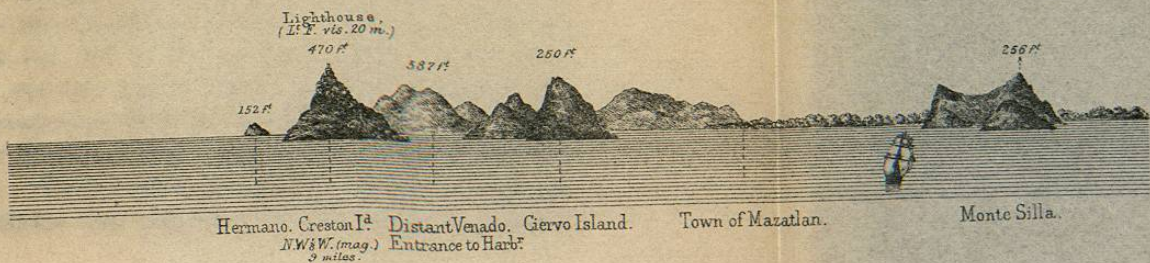
✓ Pilots, harbor dues, &c. The following, relating to pilotage, harbor dues, &c., is

Plate XIX.



ntes.

fig #1.



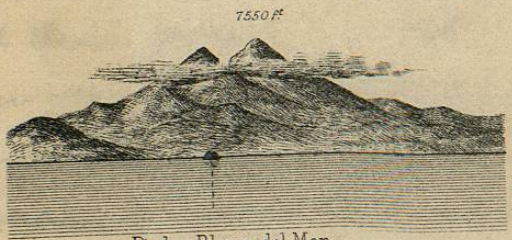
Hermano, Creston I^l, Distant Venado, Gervo Island. Town of Mazatlan. Monte Silla.
NW 1/2 W. (mag.) 9 miles. Entrance to Harb^r.

Approaching Mazatlan from the Southward.



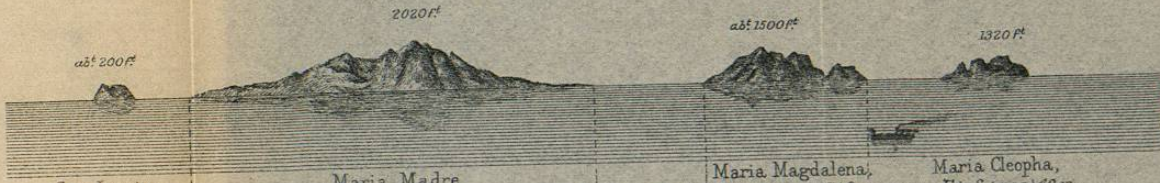
Isabel Island,
N.W. (mag.) 3 1/2 m.

Isabel Island.



Piedra Blanca del Mar,
E. 1/2 S. (mag.) 9 m.

Mount San Juan. (San Blas)



San Juanito, Maria Madre, Maria Magdalena, Maria Cleofa,
NE 1/2 N. (mag.) N.E. (mag.) 17 m. E. by N 1/2 N. (mag.) E. 1/2 N. (mag.) E. 1/2 S. (mag.) E. by S. (mag.) 40 m.

Las Tres Marias Islands.



Banderas Bay. Cape Corrientes,
South shore. S.E. by S. (mag.) 4 m. S.E. by S 1/2 S. (mag.) 2 1/2 miles.

Corveteña Rock.



Banderas Bay. Cape Corrientes,
N.E. 1/2 E. (mag.) 7 1/2 m.

Cape Corrientes.

taken from Findlay's North Pacific Directory, 2d edition, published in 1870:

"A pilot is always in attendance; pilotage \$1.75 per foot and \$5.00 for the assistance of a boat. There are 12 feet of water on the bar, but 18 feet inside.* Discharging costs about \$1.50 per ton, and is always at the merchant's expense. Tonnage dues \$1.00 per ton when loaded; in ballast free. Labor \$2.00 per day. Sand ballast \$1.50 per ton. Stone \$2.25. Water 6 cents per gallon. Beef 12 cents per pound. Weights and measures are the same as those of Spain."

During the stay of the *Narragansett*, from the 6th to the 18th of February, light north-westerly winds were experienced during the day, succeeded by calms at night. The thermometer ranged from 70° to 75° Fahrenheit. During the summer months calms are of frequent occurrence, and the thermometer reaches 100° and over.

It is H. W., F. and C., IX^h 40^m. Springs rise 7 feet. The magnetic variation in 1875 was 9° 45' E., increasing about 1' annually.

Mazatlan, the official name of which is La Villa de los Castillos, is the only sea-port of importance in the province of Sinaloa. It presents a picturesque appearance, the houses being all light colored, and in the better part of the town handsome and commodious. It is considerably larger than Guaymas, having a population of about 15,000. The population varies with the seasons, being far greater in the dry season than during the rainy one.

Mazatlan is less unhealthy than San Blas, but severe fevers are common during the rainy season. It is the outlet for the products of the valuable mining district of San Sebastian and large quantities of English goods are imported directly from England. The trade is almost entirely in the hands of foreigners, who realize considerable profit from it. The city is well regulated, has a board of health, a civil and military hospital, several public schools, and a reading room organized by the resident foreigners. Next to Acapulco, Mazatlan is the most important city on the Pacific coast between Panamá and San Diego.

Everything in the way of equipment or provisions that

* Doubtful.

Weather. ✓

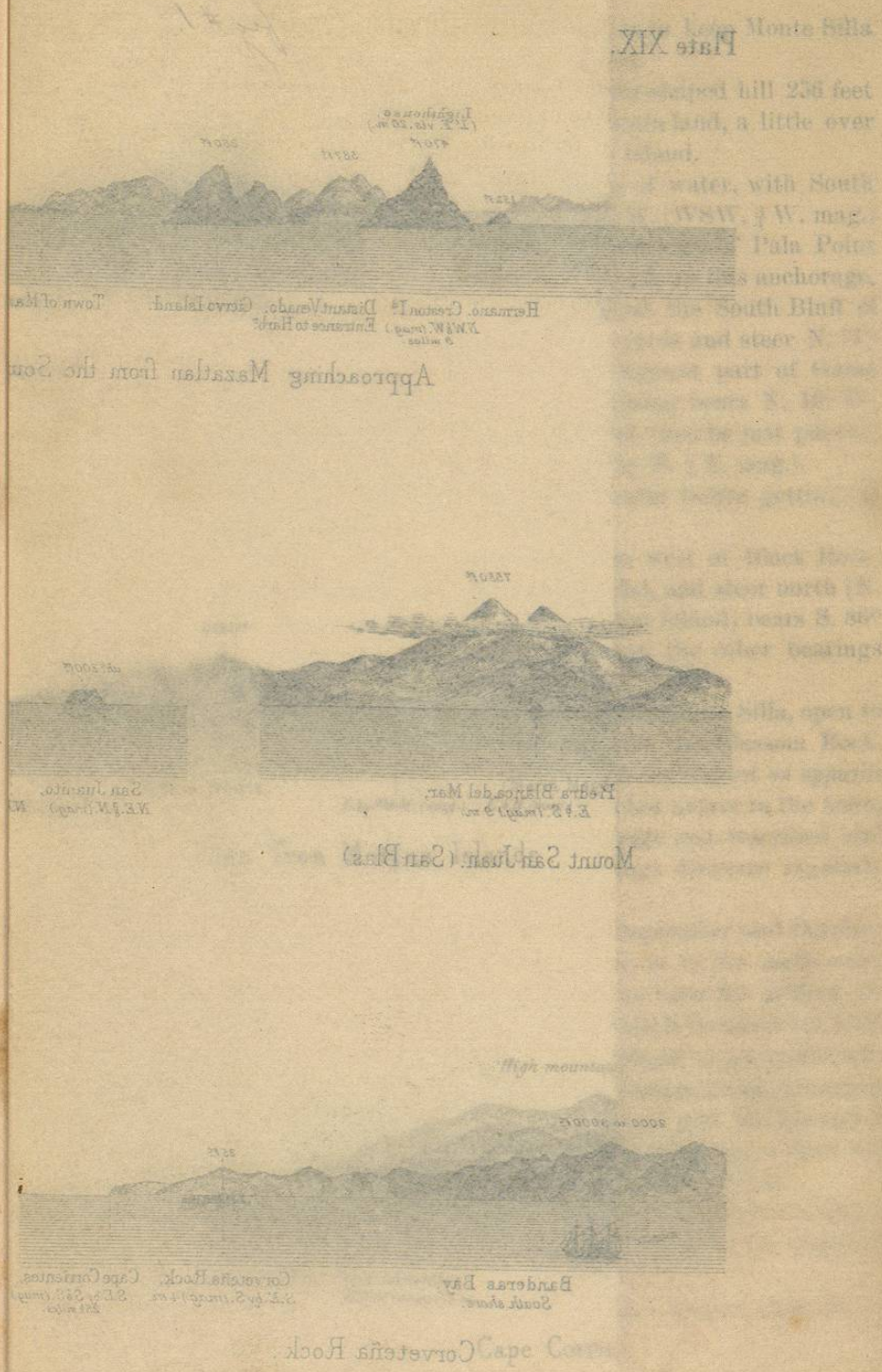
Tides. ✓

Variation. ✓

Mazatlan. ✓

Supplies. ✓

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between the Boca and a low, slightly projecting point 28 miles S. 12° E. (S. by E. $\frac{1}{3}$ E. mag.) from it. For over 27 miles from the Boca Tecapan, a lagoon lies nearly parallel to the coast, the strip of sand beach between it and the sea varying in width, from a quarter of a mile near the Boca, to $2\frac{1}{4}$ miles near its southern limit.

The country for many miles back of the coast is low and level, two or three hills from 900 to 1,600 feet high, lying 15 or 20 miles inland, being the only ones seen throughout the entire distance. A few Indian huts and some patches of green bushes and trees are scattered along the coast.

From the low, slightly-projecting point just mentioned, the coast trends S. 24° E. (SE. by S. mag.) for a distance of 18 miles, to Camichin Estero.

✓
Camichin Estero. Camichin Estero is the outlet of an extensive lagoon which stretches northward from it. Off the entrance is a bar, over which the sea breaks. On the western shore of the lagoon, just north of the entrance, is a small settlement.

✓
Anchorage. The usual anchorage is off the mouth of the estero in 5 or 6 fathoms of water about a mile from the shore.

✓
Isabel Island. Isabel Island lies $17\frac{3}{4}$ miles from the nearest point of the main-land, its highest peak bearing N. 74° W. (W. $\frac{1}{2}$ N. mag.) from the bar off Camichin Estero, 22 miles distant from it. It is about $1\frac{1}{2}$ miles long, nearly NNW. and SSE., half a mile wide and 285 feet high. Neither wood nor water can be obtained from it, and it is visited only by sealers. (View opposite page 178.)

There are several detached rocks near the island, the most prominent of which are two pinnacle rocks, nearly white, one 90 and the other 75 feet high, which lie near its north-eastern side.

✓
Landing-place. On the eastern and south-eastern sides of the island are sand beaches, where a landing may be effected in good weather. The soundings between Isabel Island and the coast are regular, decreasing from 20 fathoms near the island, to 6 and 7 fathoms $3\frac{1}{2}$ miles from the coast.

South of Camichin Estero the coast continues its south-easterly trend and is low and sandy. Between the mouth of the estero and San Blas, which is 19 miles to the south-eastward, are the mouths of several lagoons and rivers.

The entrance to Asadero Estero is $7\frac{1}{2}$ miles from that of Camichin. It has a shoal of small extent off it. ✓
Asadero Estero.

The anchorage is in 5 or 6 fathoms of water, about half a mile from the beach. ✓
Anchorage.

Vessels come here for cedar, dye-wood, &c. ✓

The Rio Grande de Santiago, or de Lerma, which takes its rise near the City of Mexico, feeds on its course Chapala Lake (over 50 miles long), and draining the larger part of the province of Jalisco, flows into the Pacific about 4 miles to the south-eastward of Asadero Estero. Guadalajara, the capital of Jalisco, is situated on the south bank, about 140 miles from its mouth. ✓
Rio Grande de Santiago, or de Lerma.

A dangerous shoal, over which the sea breaks heavily, extends nearly two miles off its mouth.

Piedra Blanca del Mar is a small white rock, 145 feet high, lying $5\frac{1}{4}$ miles S. 77° 30' W. (WSW. mag.) from the mouth of the Rio Grande de Santiago. There is a safe passage between the rock and the shoal off the mouth of the river. From 8 to 9 fathoms will be found near the rock. ✓
Piedra Blanca del Mar.

This rock is a good guide for making the port of San Blas, which is about 12 miles distant in an E. $\frac{1}{2}$ S. (mag.) direction. ✓
Land-mark.

From the mouth of the Santiago the coast trends S. 58° E. (ESE. mag.) to the entrance of San Blas Harbor, a distance of $7\frac{1}{2}$ miles. Three miles from the mouth of the Santiago is the outlet to a lagoon which is fed by a branch from the river.

Piedra Blanca de Tierra is a small white rock 58 feet high, with two smaller ones, one north-east and the other south-west of it. It lies 6 cables S. 41° W. (SSW. $\frac{1}{3}$ W. mag.) from the nearest land (Castillo de la Entrada), the channel between having a depth of from 3 to 4 fathoms. ✓
Piedra Blanca de Tierra.

The harbor of San Blas is nothing more than a small estero, having throughout the greater part of its extent, very shoal water. The bar at its entrance has 12 feet of water on it at low tide, and from 16 to 17 feet at high tide. Inside, the depth increases to about 3 fathoms at low water. Vessels must moor, head and stern, in the estero, which is very narrow, and is perfectly sheltered from every wind. ✓
San Blas Harbor.

The western shore of the estero is a narrow neck of land, or peninsula, in the southern part of which are some hills over 100 feet high with the ruins of fortifications on them.

It terminates in a low stony point, which, projecting to the eastward from the main part of the peninsula, forms a natural breakwater and makes the harbor a land-locked one.

✓ Directions.

The following directions for entering the harbor of San Blas are from Findlay's North Pacific Directory: "There are 13 feet of water on the bar of San Blas, in the shallowest part of the entrance, and very seldom less, even in the neaps. By giving the point which forms the harbor a berth of 15 or 20 fathoms, you will avoid a large stone, which is awash at low water, and is about 8 fathoms from the dry part of the rocks or breakwater. As soon as you are so far in that the innermost or eastern part of the breakwater is in line with the other part of it inside, which runs to the NNE., it may be approached to within 10 or 15 fathoms, and by keeping well off from the low sandy point, as you warp up the harbor, you will have the deepest water. As the sea sometimes, in the rainy season (although seldom), breaks over the natural breakwater which forms the harbor, it is best to moor close under the high part of the land, on which stand the ruins of an old fort, with the ship's head up the river, a bower laid off to the eastward, and an anchor from the starboard quarter, the port side secured to the shore, either by taking out anchors or by making fast to the rocks. In this position it is next to impossible for any accident to happen to the ship; the cargo can be discharged with dispatch, and immediately under the eye of the master or mate, as the landing place would be about 100 fathoms from the ship. The ship's longboat would do more inside than two launches if she were outside, even in smooth weather, and in rough weather, when it would be impossible to work with the launches outside, the discharging could go on with the longboat, if inside.

"As there are no established pilots, it is advisable to engage a person to point out where the large stone before mentioned lies. The captain of the port is the best person to apply to, who, if he will not come off himself, will most likely recommend a suitable person."

✓ San Blas Roadstead.

The outer anchorage of San Blas is open and exposed to both the prevailing winds. It is safe in the dry season, and less dangerous than that of Mazatlan in the rainy months. The extent and configuration of the roadstead renders it easy of approach, and when leaving it, the prevailing current

often affords considerable assistance. It is recommended to avoid remaining in it during the season of the *cordonzos*.

The best anchorage is in $5\frac{1}{2}$ to 6 fathoms of water, Piedra Blanca de Tierra bearing N. 26° W. (NW. $\frac{1}{3}$ N. mag.), distant about half a mile.

Mount San Juan, 7,550 feet high, is an excellent landmark for making the port of San Blas. It may be seen from a great distance, and is seldom obscured by fog, as the low lands frequently are. When seen from the westward it appears to be saddle peaked, and on a bearing S. 73° E. (E. $\frac{3}{4}$ S. mag.) is nearly in line with Piedra Blanca del Mar and Piedra Blanca de Tierra. The coast range, from 1,000 to 3,000 feet high, lies between Mount San Juan and the coast. (View opposite page 178.)

The land southward of San Blas is high, while to the northward it is low.

When coming from the westward, bound to San Blas, pass close to the southward of Piedra Blanca del Mar and shape a course for Piedra Blanca de Tierra, keeping it a little open on the port bow and giving it a berth of $1\frac{1}{2}$ or 2 cables in passing; anchor about half a mile to the south-eastward of it, in 5 or 6 fathoms. If it is desired to anchor nearer the town, pass between Piedra Blanca de Tierra and the Castillo de la Entrada and anchor in $4\frac{1}{2}$ fathoms, a scant half mile eastward of the rock.

Care must be taken in standing in for San Blas, not to fall to leeward, as there is a strong southerly current setting along the coast during the greater part of the year.

Coming from the southward, steer for the westernmost hill, Castillo de la Entrada, 106 feet high, until approaching Piedra Blanca de Tierra, when anchor as before directed.

The magnetic variation in 1875 was $9^\circ 05'$ E., increasing about 1' annually. H. W., F. and C., IX^h 41^m. Springs rise $6\frac{1}{2}$ feet.

San Blas, the sea-port of the province of Jalisco, was formerly a large and important city, having a population of about 20,000. At present, San Blas proper has scarcely 600 inhabitants, and would be of no importance whatever, were it not the port of entry for Tepic and Guadalajara and the centre of the trade in precious woods, as rosewood, mahogany, cedar, lignum-vitæ, Brazil wood, &c.

The old town of San Blas was situated about three-quar-

Land-mark. ✓

Directions. ✓

Caution. ✓

Variation. ✓

Tides. ✓

San Blas. ✓