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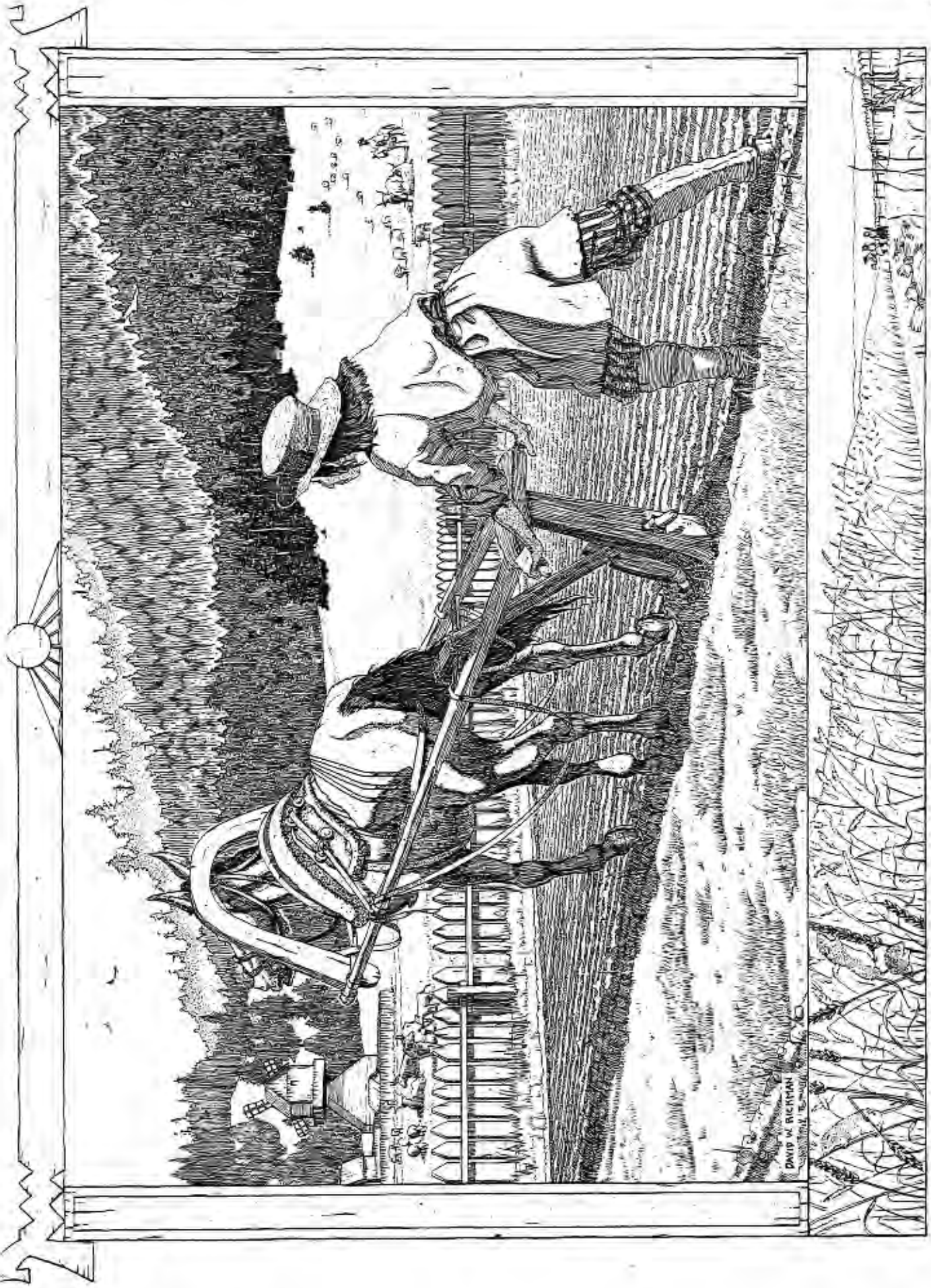
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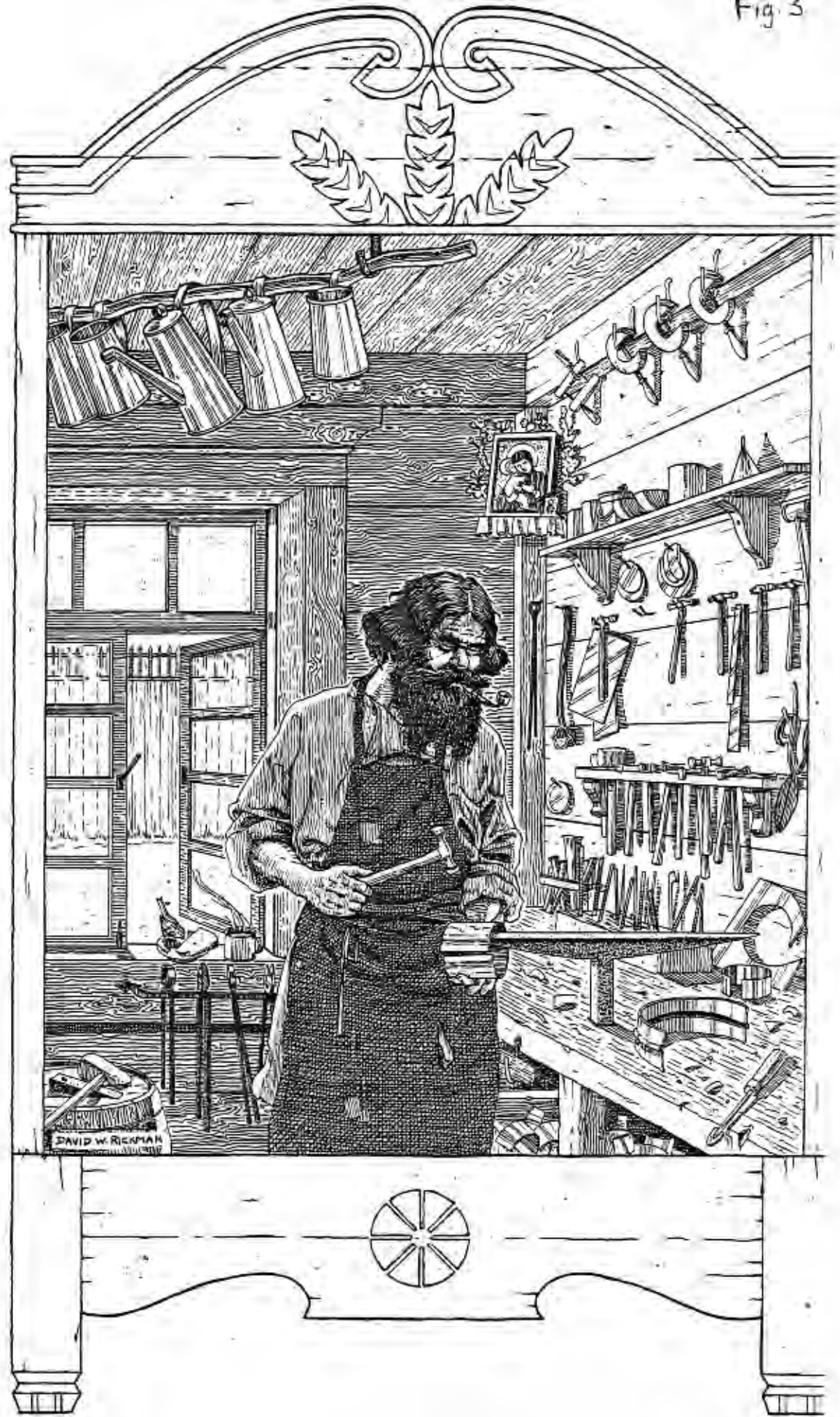
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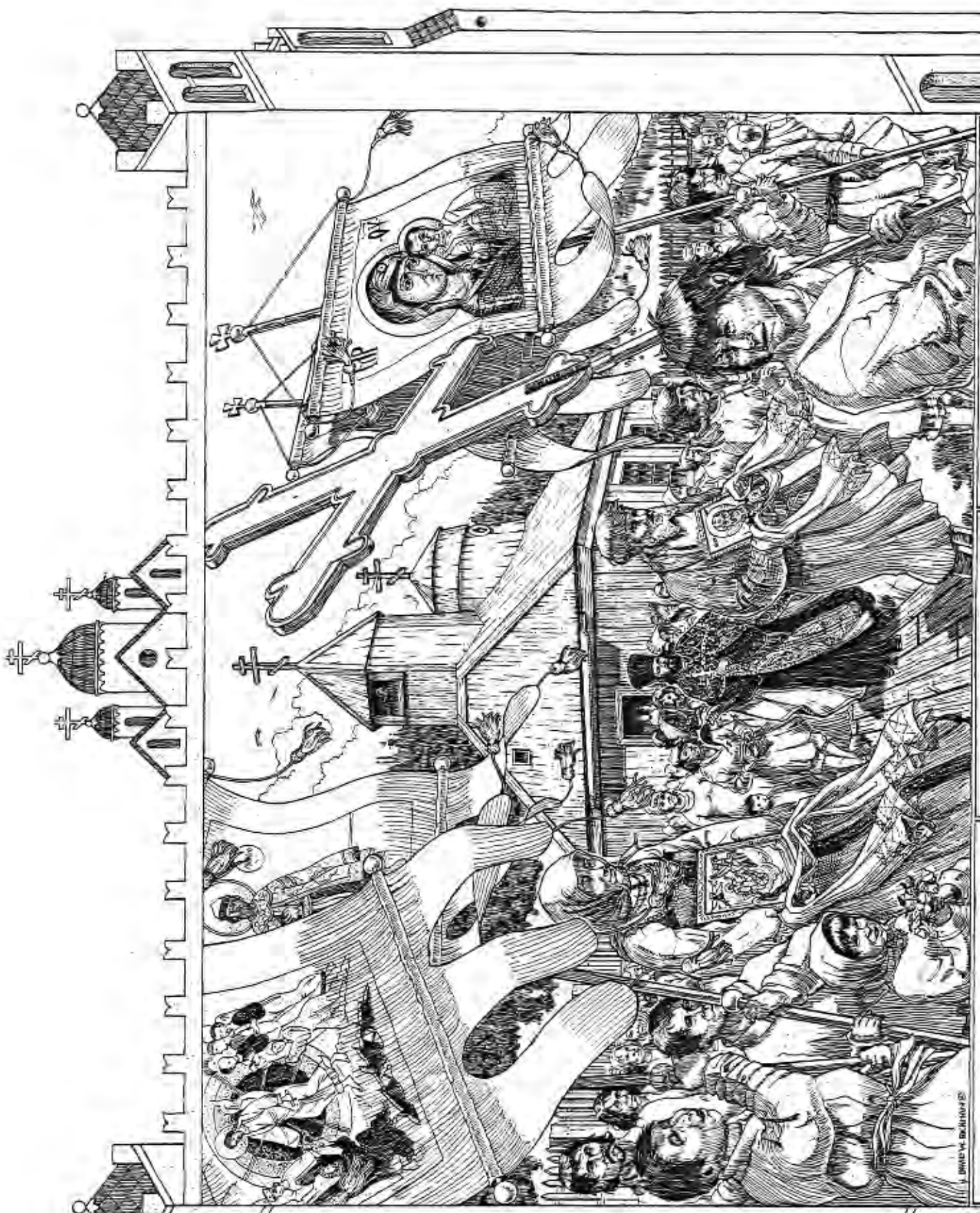
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DAVID W. BUCKMAN





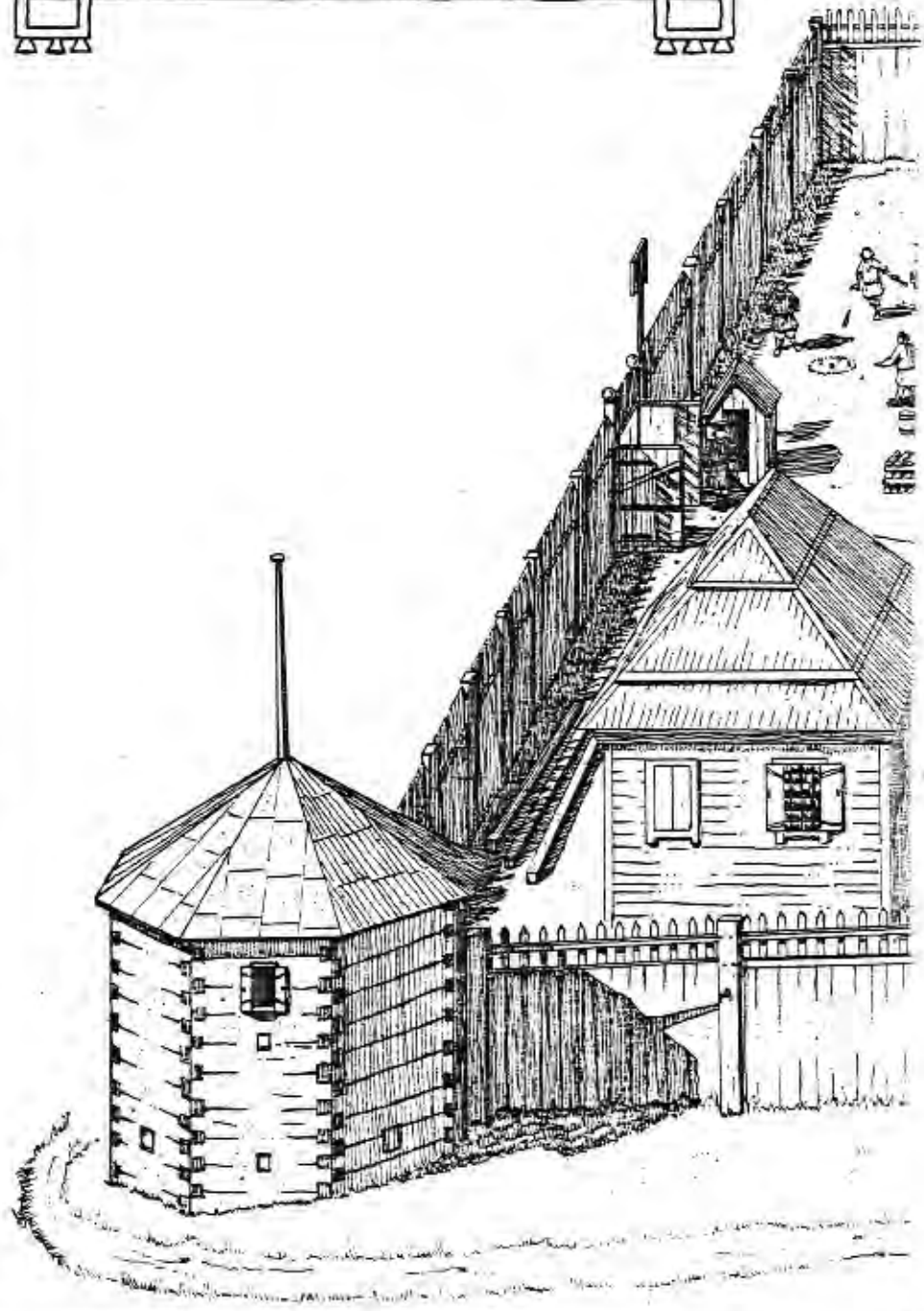


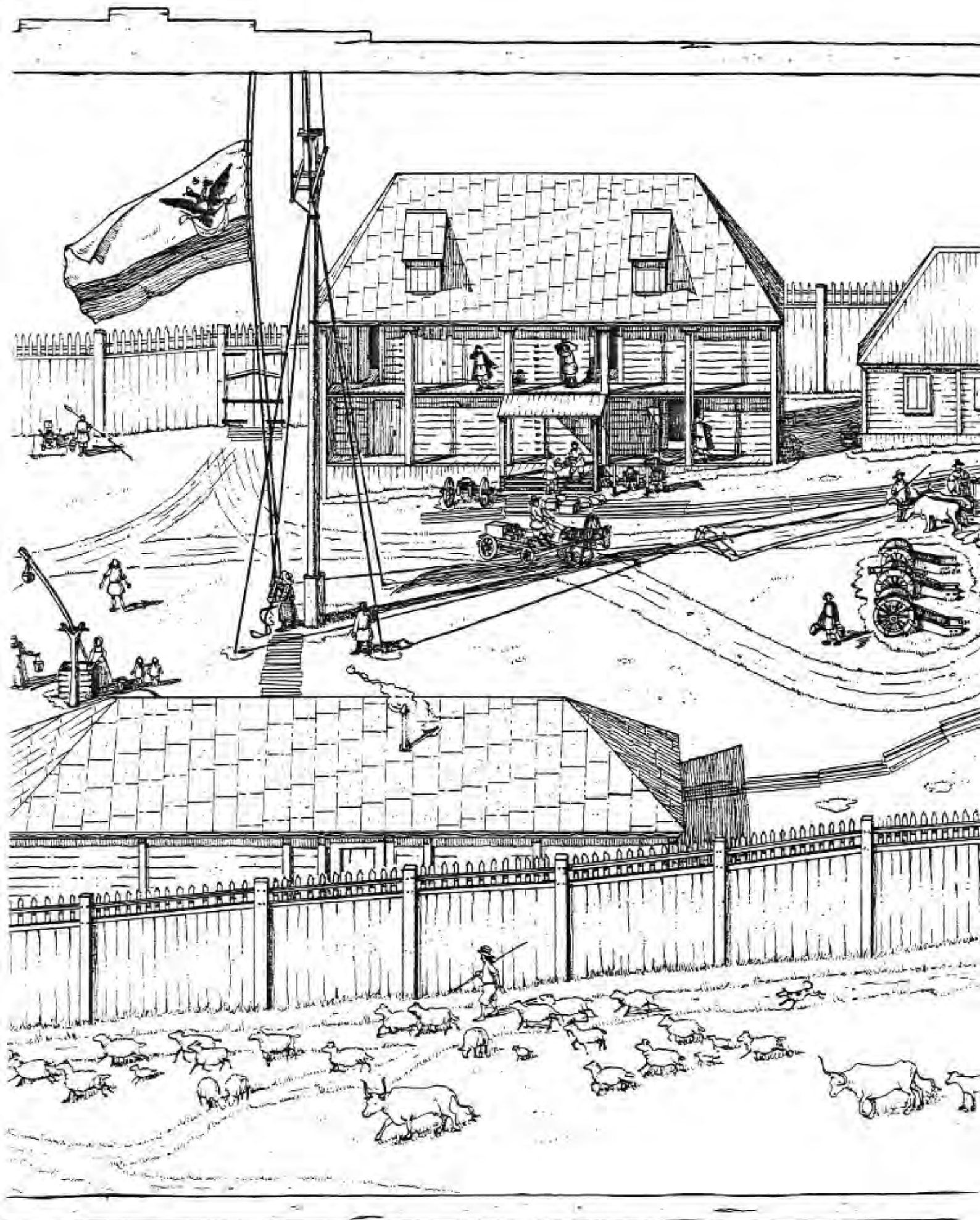
ПРОС ПУЧЬ:ЗДЯ

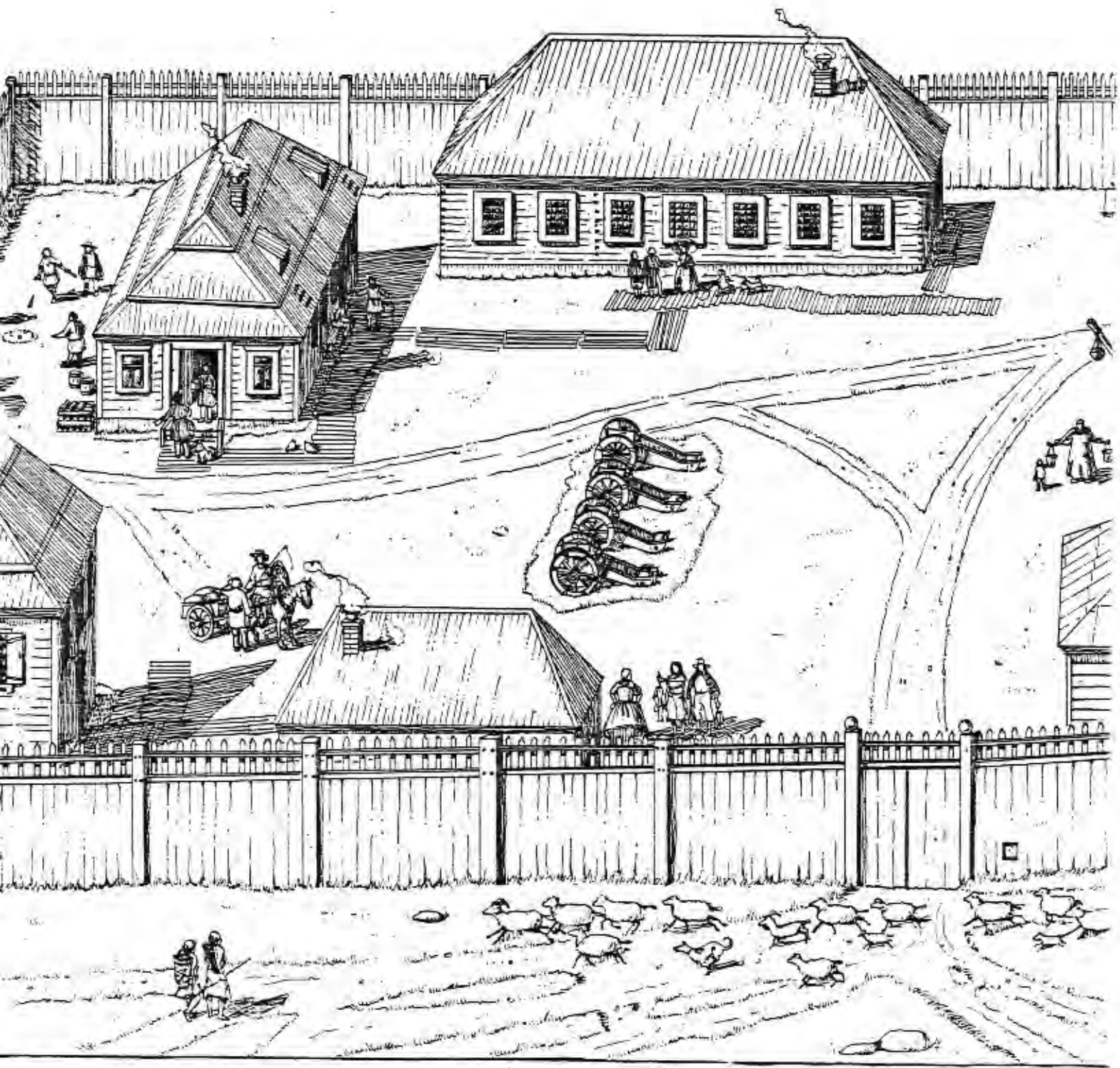
И. ПИЧУКОВ

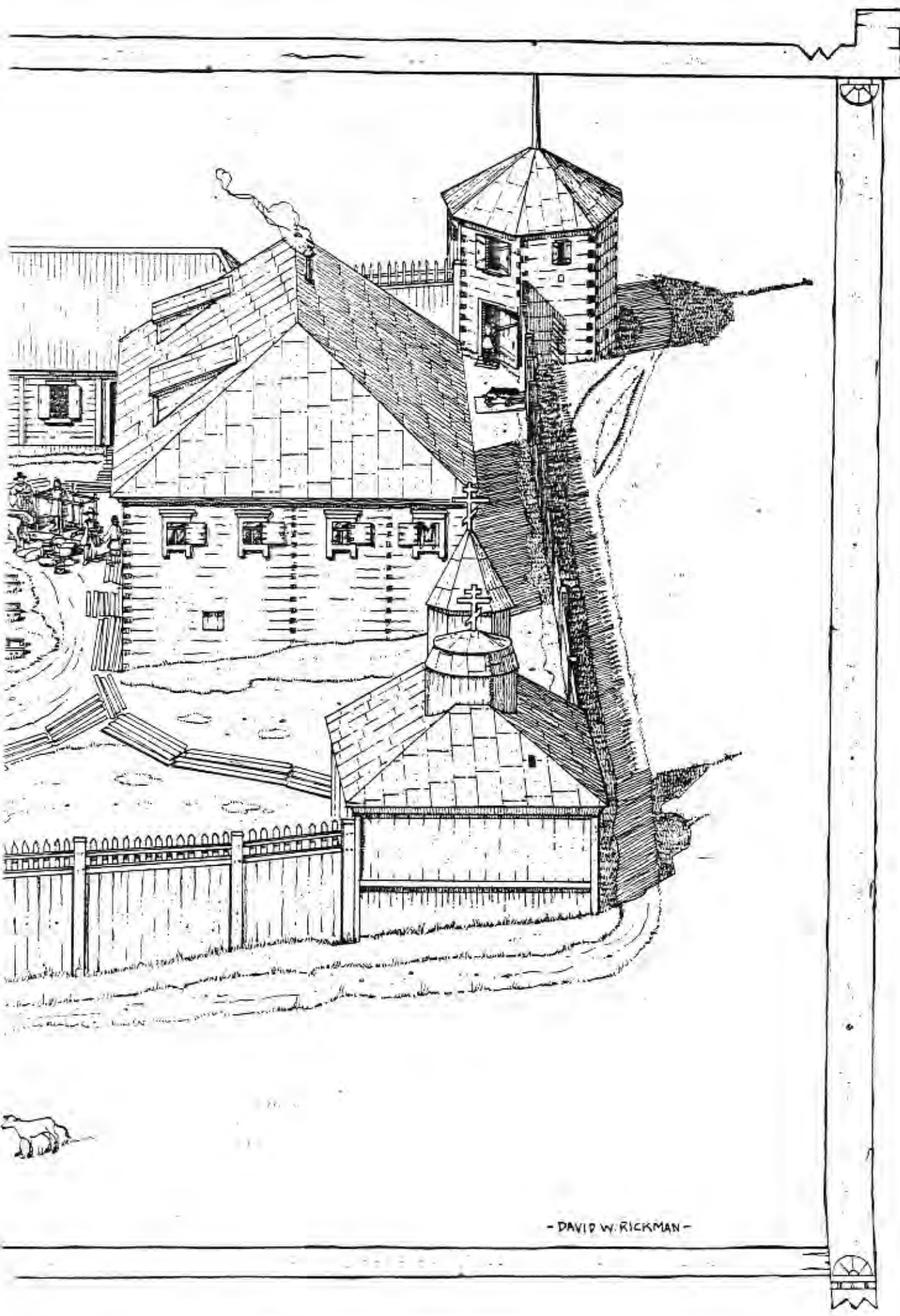
FORT ROSS

The Stockade
circa 1840.









- DAVID W. RICKMAN -

FORT ROSS

The Stockade
circa 1840.

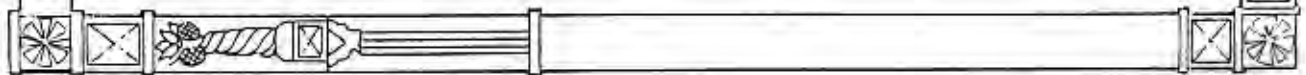
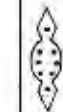
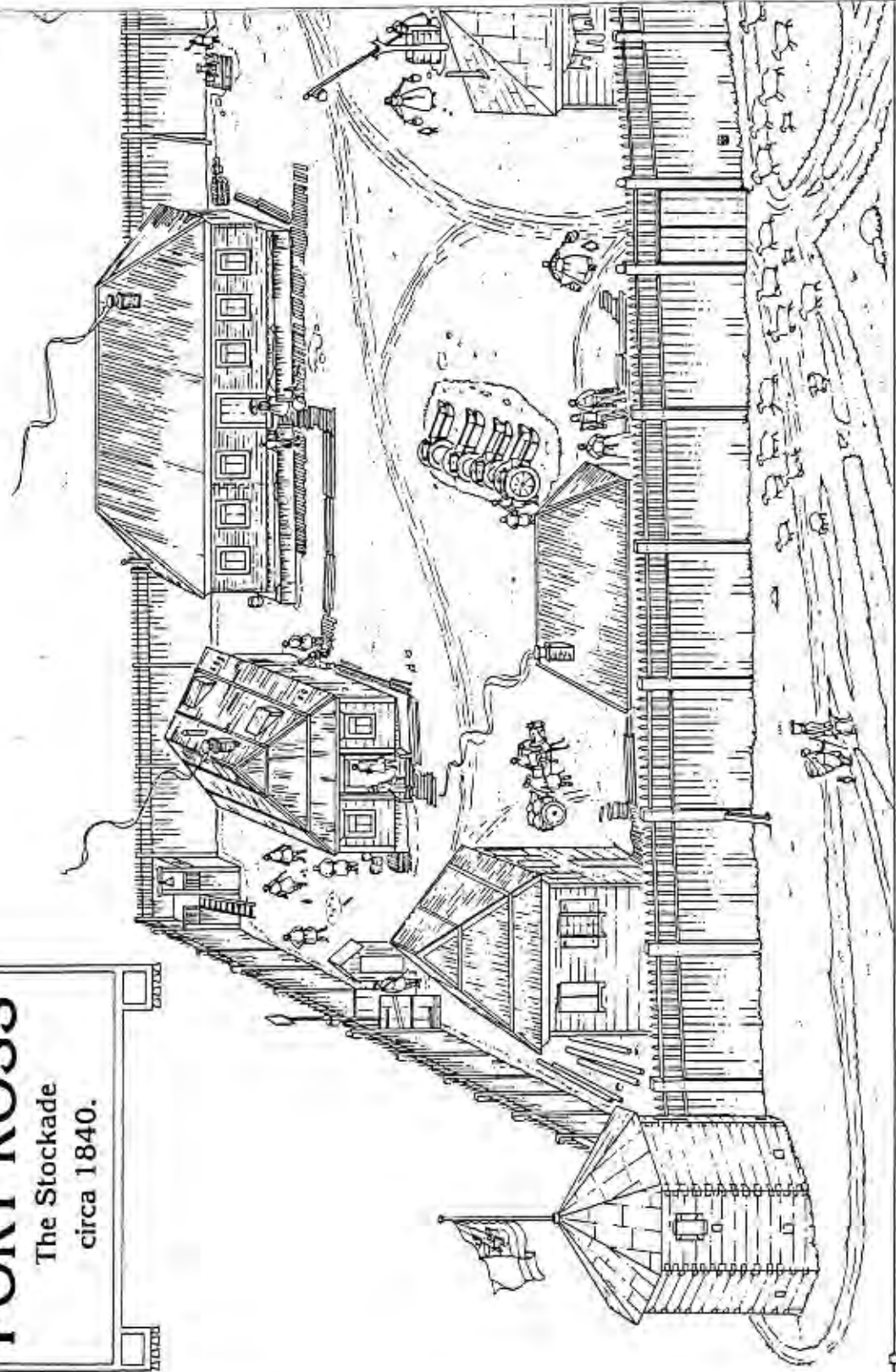
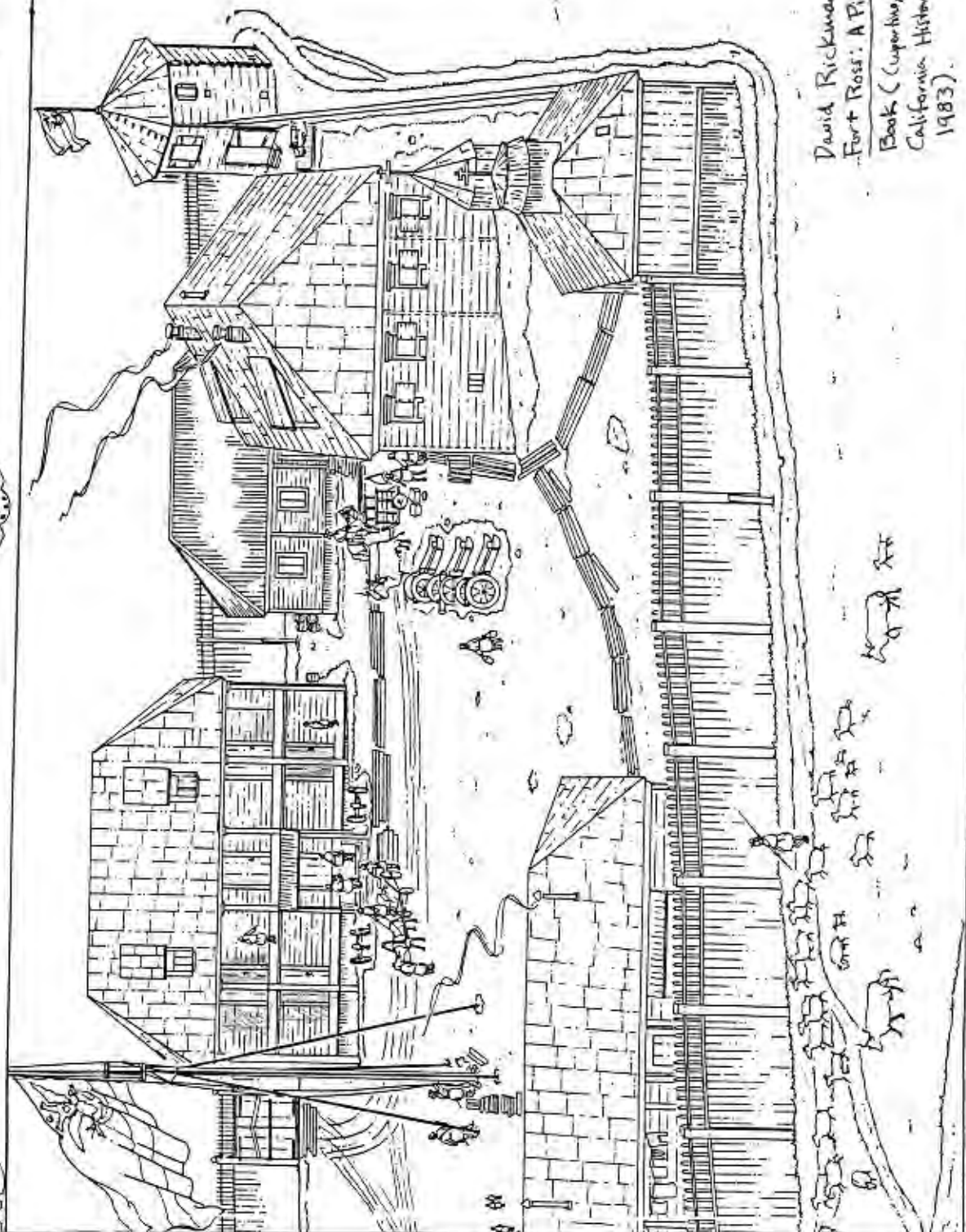
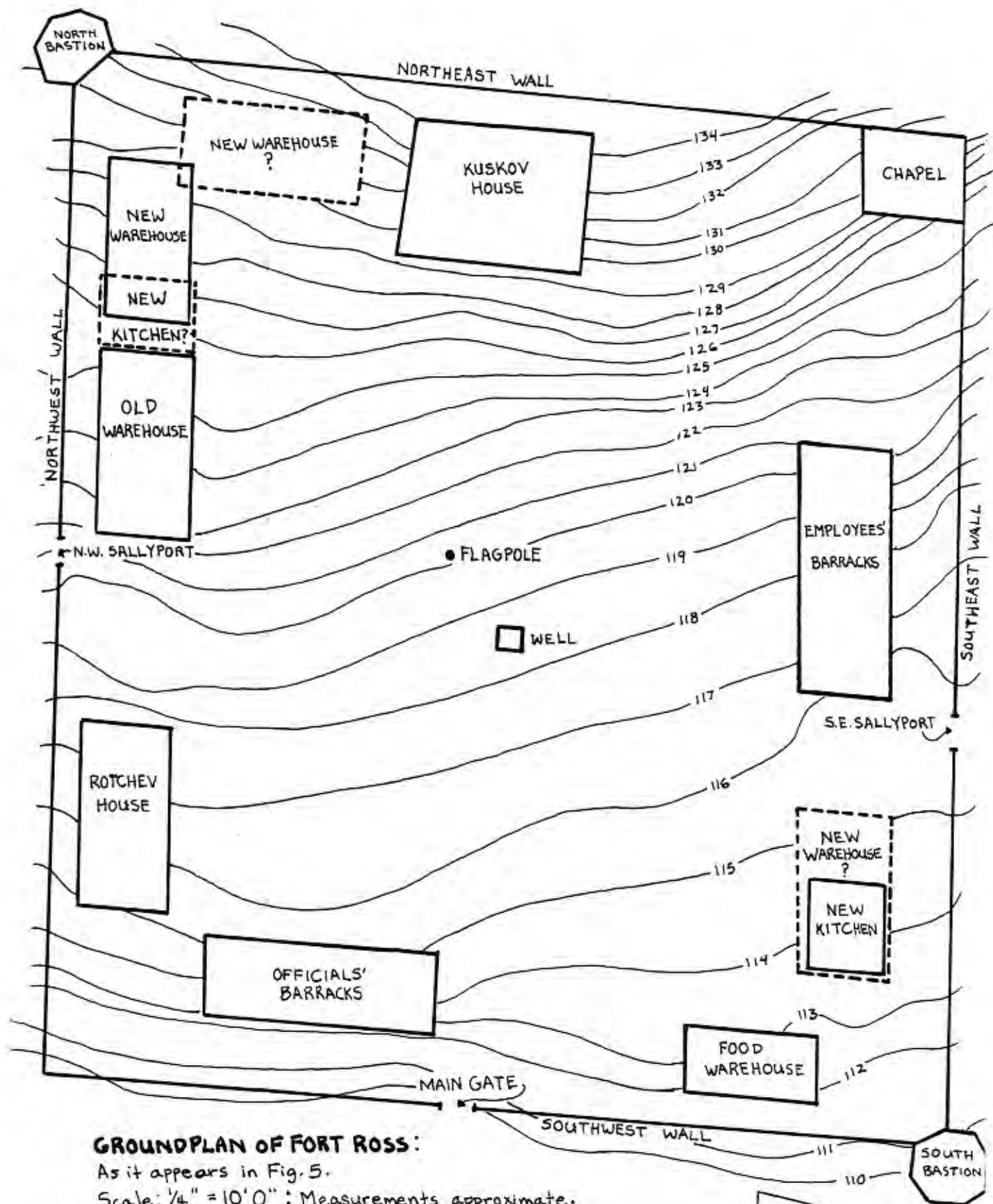


Fig. 6.



David Rickman
Fort Ross: A Picture
Book (Luparino, CA
California History Center,
1983).



GROUNDPLAN OF FORT ROSS:

As it appears in Fig. 5.

Scale: $\frac{1}{4}'' = 10'0''$; Measurements approximate.

Features that appear in the drawing: ————

Alternative locations: - - - - -



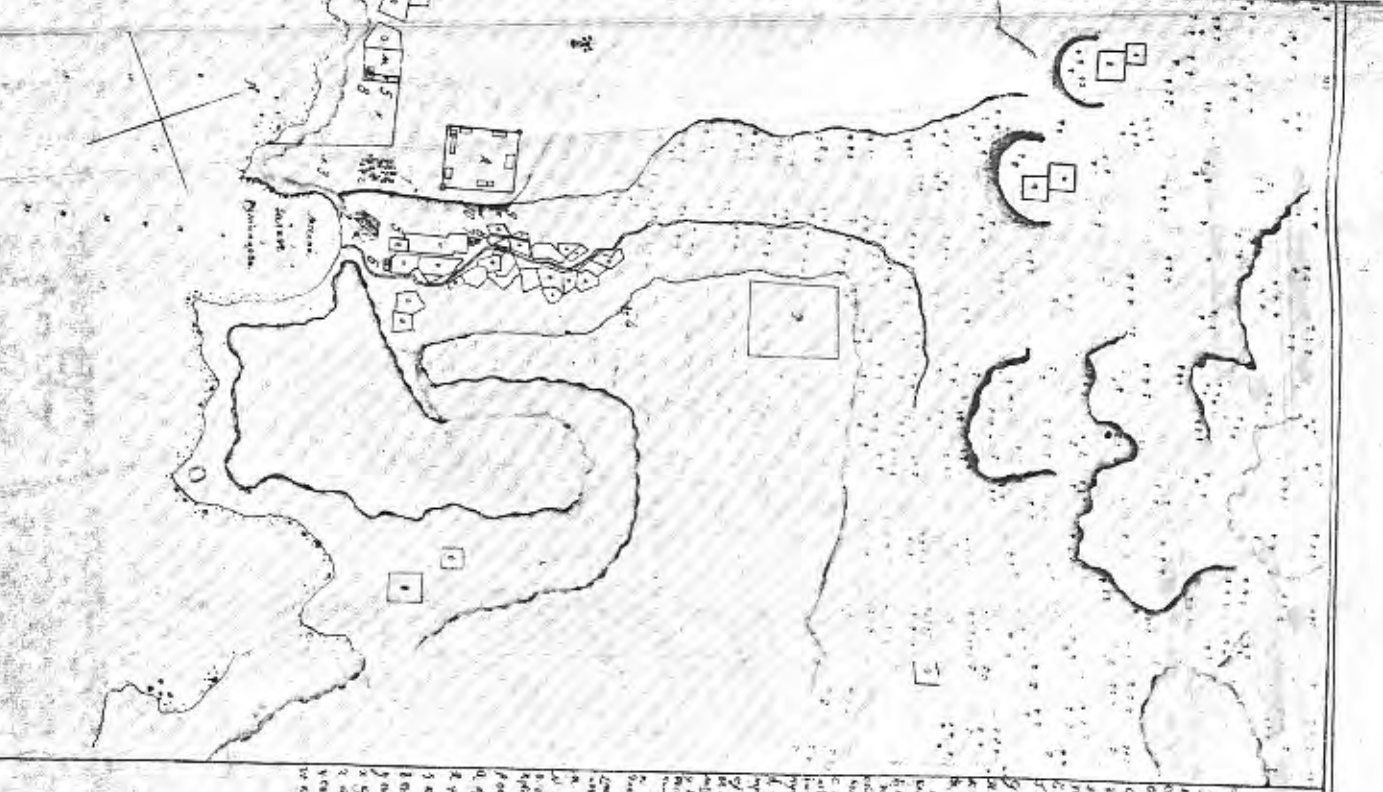
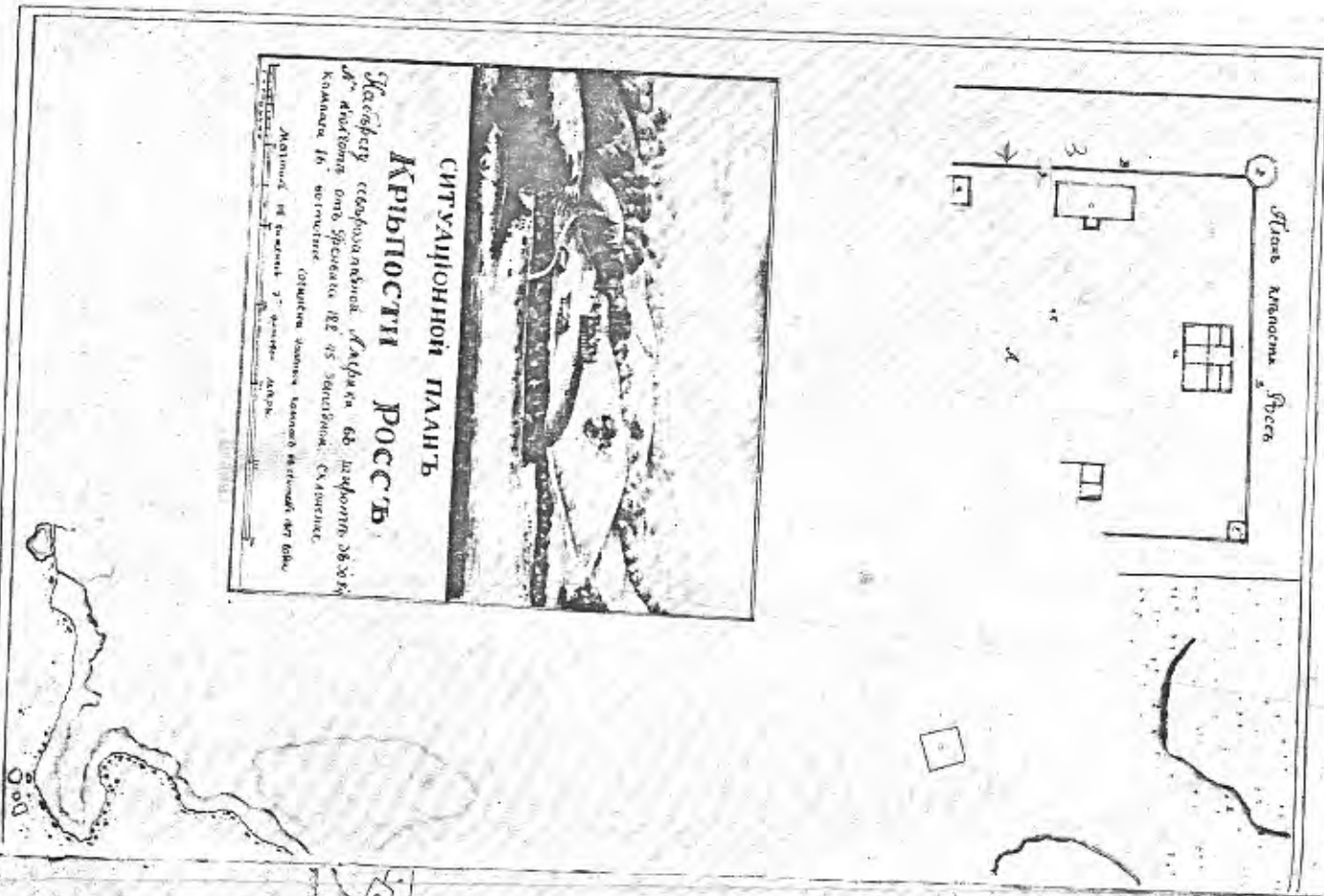


Рис. 13. Карта окрестностей крѣпости Росс 1817 г.
Ш.АВМФ. ф. 1331, оп. 1, л. 221. Публикуется впервые




July 5, 1972

MAP OF FORT ROSS

No. 13. THE MAP OF 1817 HAS THE FOLLOWING EXPLANATIONS:

- A. Fort Ross
 - B. Fort's wall made of heavy squared timber 3 SAZHEN high, which are enclosed at the top by wooden spear-like obstacles
 - C. Two-story octagonal fortress
 - D. Two-story Heptagonal fortress
 - E. Cabin for the bell
 - F. Water well
 - G. Fort Sally Gate
 - H. Small gate
 - K. Flagstaff

 - a. House of commander, which is built from (text is not readable. S.F.)..rooms, passage hall, two storerooms, and at the lower level storage rooms and powder magazine.
 - b. Barracks for employee, made of boards. This barracks composed of one general hall and two separate small rooms.
 - c. Two-story storage place which is built of logs. This storage room at the lower level composed of two rooms whereas the upper level consists of three storage rooms.
 - d. House made of boards which consists of three separate chambers.
 - e,f. House made of boards which has foundry and workshop for coppersmith.
 - g,h,k,i,m. Closely connected structure made of boards which consists of the following:
 - g. pantry
 - h. kitchen for common use
 - k. office
 - i. jail
 - m. metal workshop
 - n. two-story provision storage room made of boards
- Snebet u coppersmith k case 7*
- This note in materials sets it apart*
- I.L. 14 YURTS made of boards for Aleuts
 - M. Live-stock yard
 - N. Enclosure for sheep
 - O. About 50 enclosed kitchen-gardens in the vicinity of Ft. Ross
 - P. Enclosed place for raising wheat
 - 2Q. Brig Rumiantsev
 - 3R. Flagstaff
 - 4S. Cemetery
 - 5T. Barn
 - 6Q. Shed for rowing boat
 - 7X. Smithy
 - 8Z. Bath house
 - 9V. Pigsty
 - 10W. Kitchen for baking bread
 -  Windmill (shown on the map but not mentioned by S.F.)

SOURCE:

S. G. FEDOROVA - RUSSKOE NASELENIE ALIASKI
1 KALIFORNII. pp. 254-255
(The Russian Population in Alaska and California)
Late 18th Century to 1867. Izd. "NAUKA", Moscow, 1971.

V.I.R.
N.I.R.



Photo by Glenn
Farris enlarged as
fig. 11.



Photo by Glenn
Farris enlarged
as fig. 13



OUTPOST OF AN EMPIRE

- A. South (8-Sided) Bastion
- B. North (7-Sided) Bastion
- C. Chapel
- D. Kuskov House
- E. Old Warehouse
- F. Provisions Warehouse
- G. Employees' Barracks?
- H. Officials' Quarters?

- J. Rotchew House (not seen + perhaps not built).
- ? Unidentified building near Old Warehouse perhaps inside walls of fort.



Man's urge to explore and acquire new lands has been universal throughout history, and in the centuries that followed the expansion of Europe into the Western Hemisphere reached a scale that changed the world. The sixteenth century voyages of the Atlantic based powers of Europe in the New World are well known, but the later explorations and settlements of Europeans in North America of the eighteenth and nineteenth centuries are not so well understood.

Russian eastward expansion, the counterpart of European and American westward expansion, was an age old trend in Russian history that took on a new dimension in the seventeenth and eighteenth centuries. At approximately the time that English colonists settled along the Atlantic seaboard of New England, Russian explorers, trappers and settlers penetrated northeast Siberia and in 1639 reached the Pacific Ocean opposite Alaska. By the mid-seventeenth century they had sailed through the strait that separated Asia and North America, and inadvertently discovered a sea route from the Arctic to the Pacific oceans. It was the determination of Tsar Peter the Great, however, to clarify the geography of the North Pacific that led to the Bering-Chirikov voyages and the discovery of Alaska. In two arduous voyages (1728, 1741) Vitus Bering and Aleksei Chirikov explored the strait that is now called "Bering Strait" and discovered the Aleutian Islands

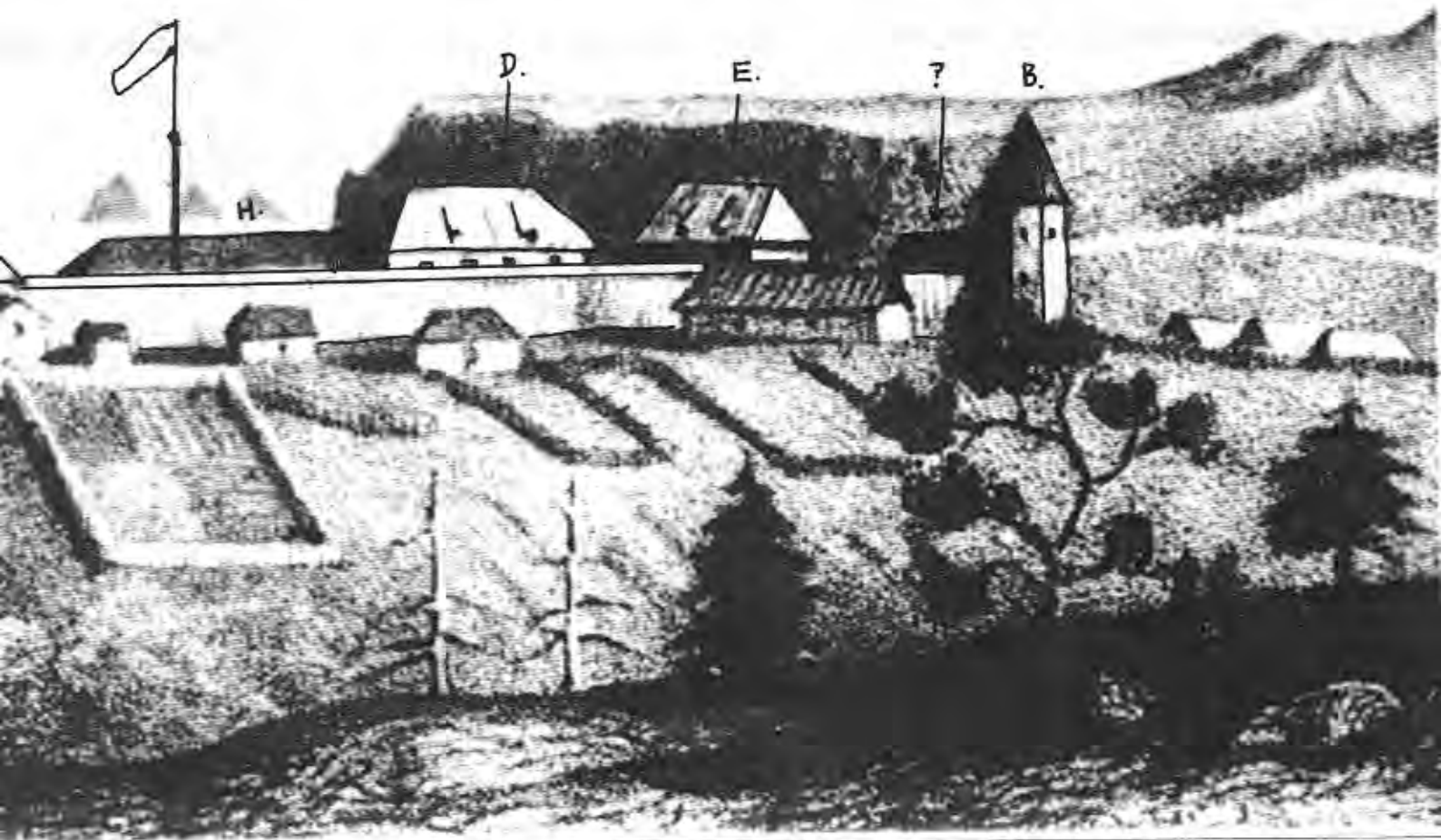
and Alaskan mainland, both of which were claimed for Russia.

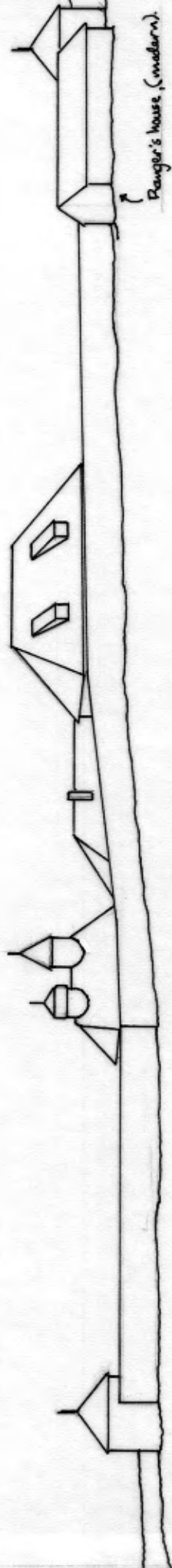
The Bering-Chirikov voyages aroused great interest among Russian hunters and traders and a desire to gain access to the herds of fur seal and sea otter that dwelt in the North Pacific. For centuries the fur trade had been the mainspring of Russian eastward expansion. Huge profits had been derived from furs both in Europe and Asia. Extending the hunting ground from Siberia to Alaska, therefore, opened an exciting new field for an age old enterprise. From 1745 to the end of the century some 40 Russian trading companies were formed which sponsored over 100 voyages to the Aleutians and Alaskan mainland to gather fur pelts valued at nearly 8,000,000 rubles.

The rapid growth of the trade called for permanent Russian settlements in Alaska as well as redoubts for planning hunting expeditions and storing furs. These were often located on promontories at the mouths of rivers, or on bays or offshore islands. Russian settlements in the Aleutians and Unalaska probably began in the 1770's, but the first known permanent settlement was founded in 1783 by an enterprising merchant, Grigory Shelikhov, on Kodiak Island. This remained the principal Russian base until 1791. Shelikhov became one of the remarkable Siberian merchants of his day—hardy, ambitious and resourceful. Before his death in 1795 he advocated

RUSSIAN-AMERICAN COMPANY FLAG: PHOTO COURTESY OF A. ALEKSEEV AND NICHOLAS ROKITANSKY

DEHAUT-DILLY'S DRAWING OF FORT ROSS: PHOTO COURTESY OF WILLIAM E. PRITCHARD





Enlargement of photo taken by Glenn
Ferris from same vantage point as Fig. 3.

K →

B.

? E. J.

H.

I.

D.

F.

A.

G.

L.

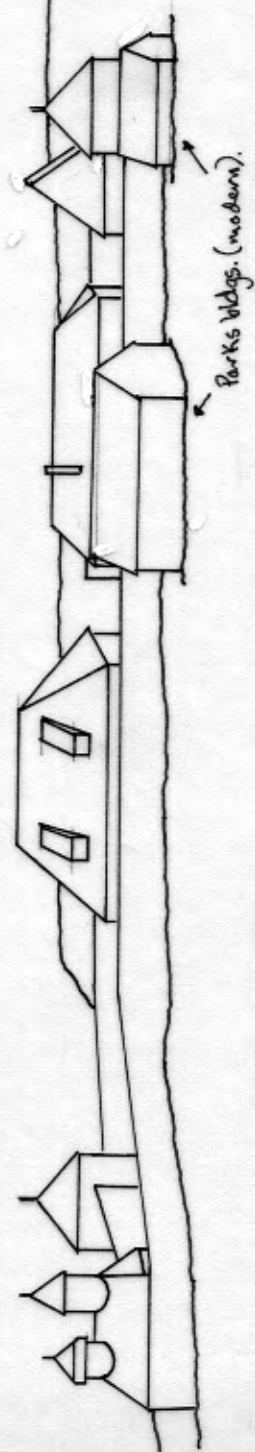


- A. South (8-Sided) Bastion
- B. North (7-Sided) Bastion
- C. Chapel
- D. Kuskov House

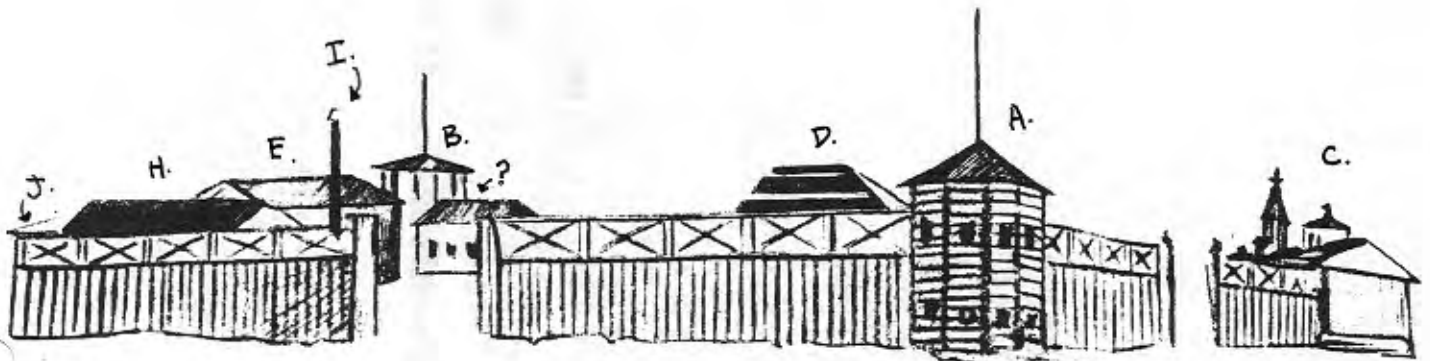
- E. Old Warehouse
- F. Provisions Warehouse
- G. Employees' Barracks
- H. Officials' Quarters

- I. Unidentified Post next to Main Gate.
- J. Ratheo House
- K. Windmill

- L. Outbuilding with gabled Ventilator.
- ? Unidentified building NW of Old Warehouse. New Kitchen?



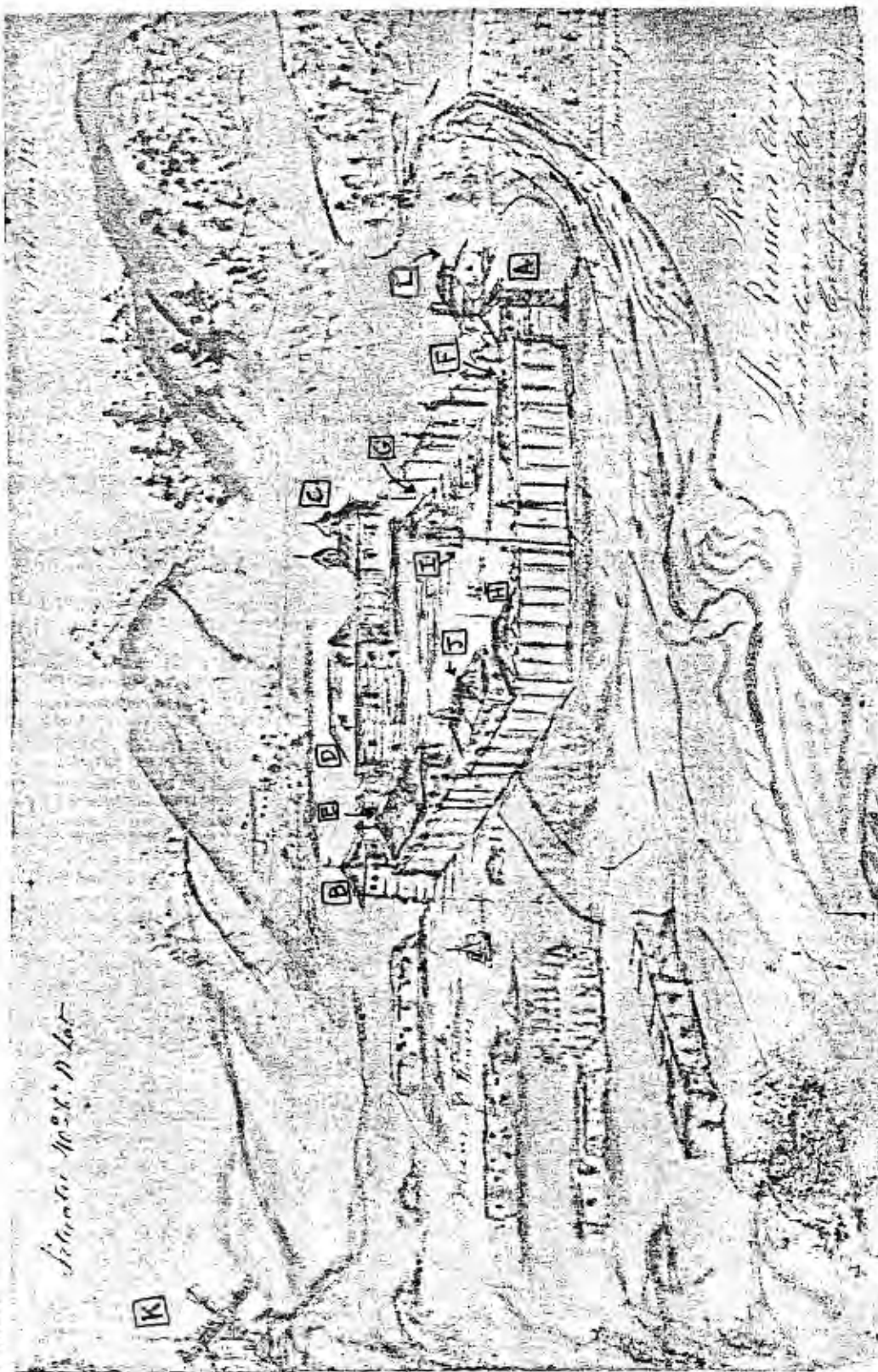
Enlargement of photo taken by
Glen Farris from same vantage point
as Fig. 1.

Khlebnikov, 1976

"Fort Ross," an unfinished sketch by I.G. Voznesenskii. The clearly depicted high palisaded walls and octagonal shore bastions bear a strong resemblance to the earlier traditional Siberian ostrogs. The Orthodox chapel is visible on the right. The structure collapsed in the 1906 earthquake, was rebuilt in 1915, burned to the ground in 1970-1971, and was again faithfully reconstructed according to the original plans. It was dedicated in the spring of 1976 by a devoted historian, His Grace, The Right Reverend Grigorii, Russian Orthodox Bishop of Sitka and Alaska. (Archive MAE AN SSSR.)

- A. South (8-Sided) Bastion
- B. North (7-Sided) Bastion
- C. Chapel
- D. Kuskoy House or Provisions Warehouse.
- E. Old Warehouse
- ? New (Grain) Warehouse?
- H. Officials' Quarters
- I. Unidentified Post next to Main Gate.
- J. Rotchew House

- A. South (8-sided) Bastion
- B. North (7-sided) Bastion
- C. Chapel
- D. Muskov House
- E. Old Warehouse
- F. Provisions Warehouse
- G. Employees' Barracks
- H. Officials' Quarters
- I. Unidentified Post next to Main Gate
- J. Rotchew House
- K. Windmill
- L. Outbuilding with gabled ventilator.

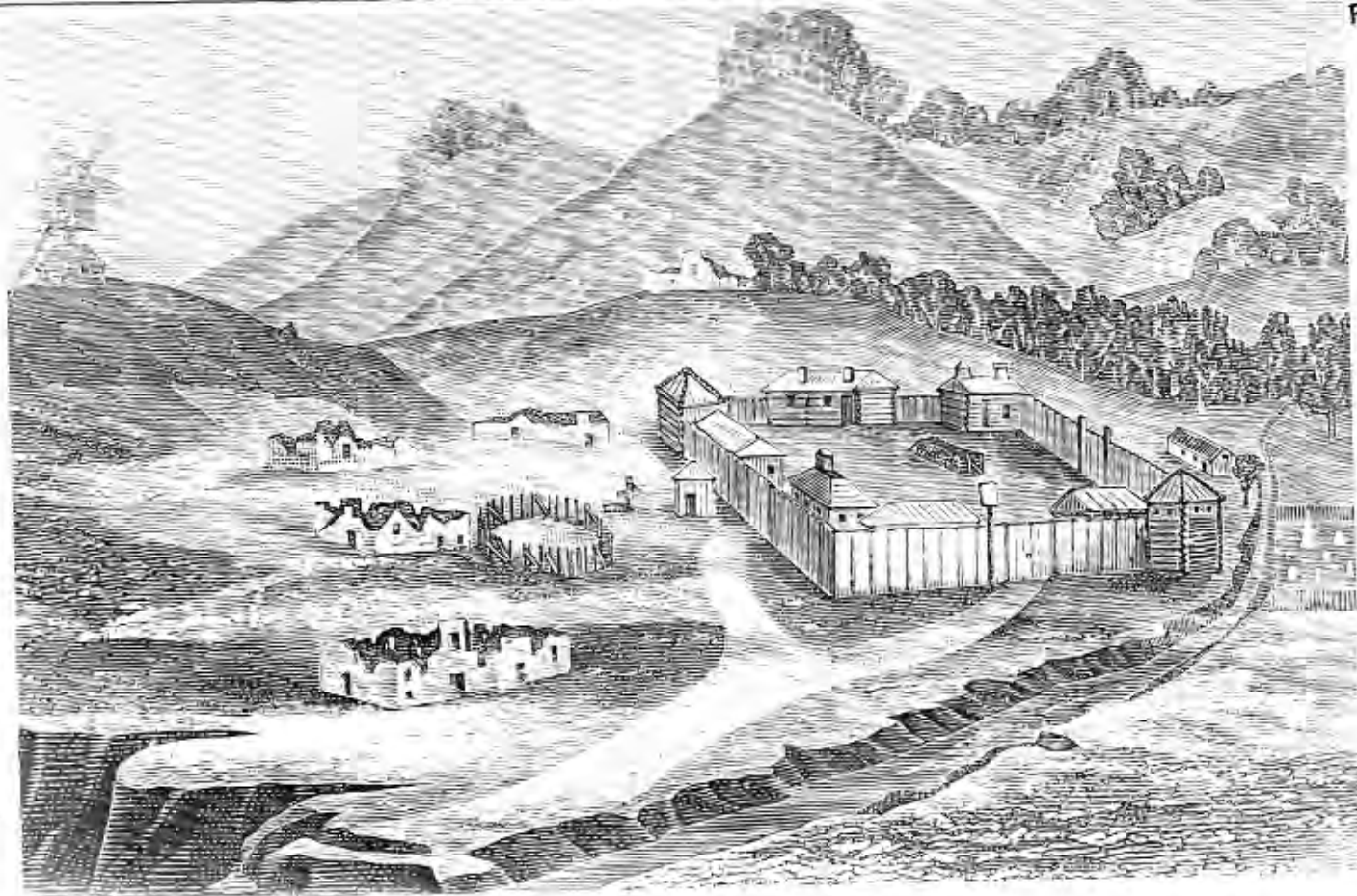


FORT ROSS IN THE FORTIES

(From the original sketch made by G. M. Waseurtz of Sandels—one of the "King's Orphans"—in 1843. From the MS. in the collection of the Society of California Pioneers.)



THE GREEK CHAPEL AT FORT ROSS
 (From "The Romance of Fort Ross," by Gertrude Atherton;
The Californian, Vol. V, No. 1, Dec. 1893.)



Woodcut based on original
 sketch by Waseurte af Sandels.

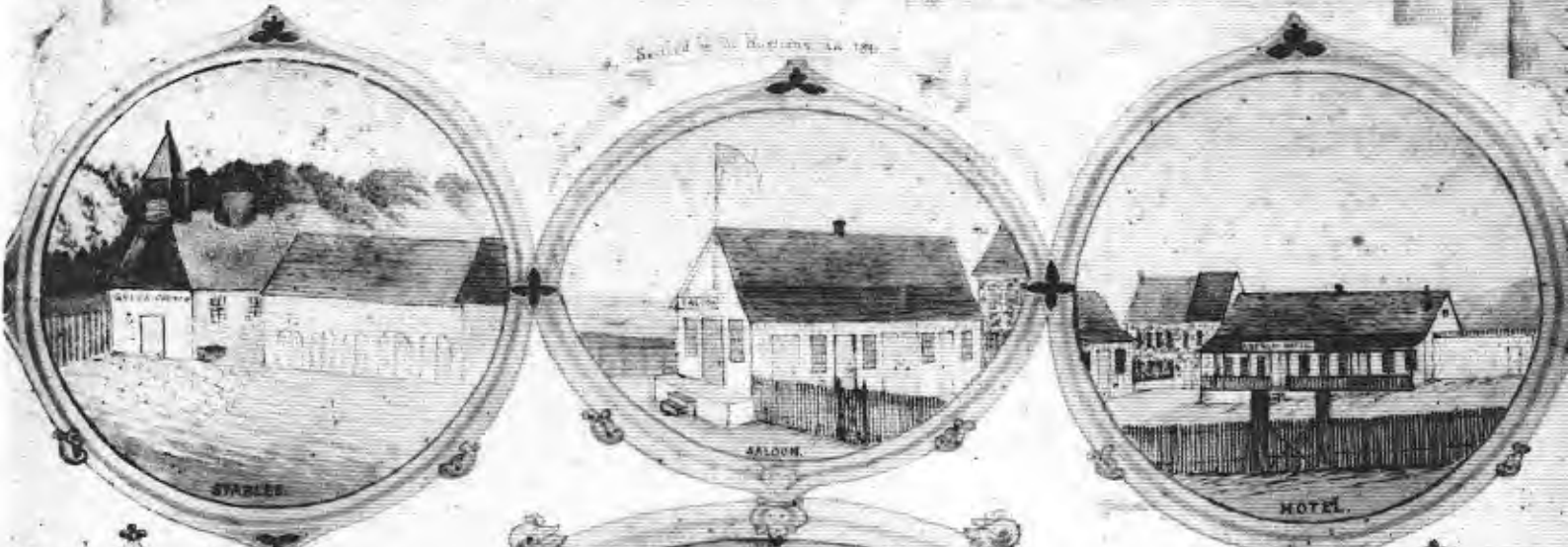
Fig. 18



O'Brien 1980

Fig. 19

FORT ROSS HOTEL.



NORTH to Mendocino Humboldt Eureka

DAILY STAGES

SOUTH to Ukiah Eureka San Francisco

CUSHMAN
AND
LEONARD.

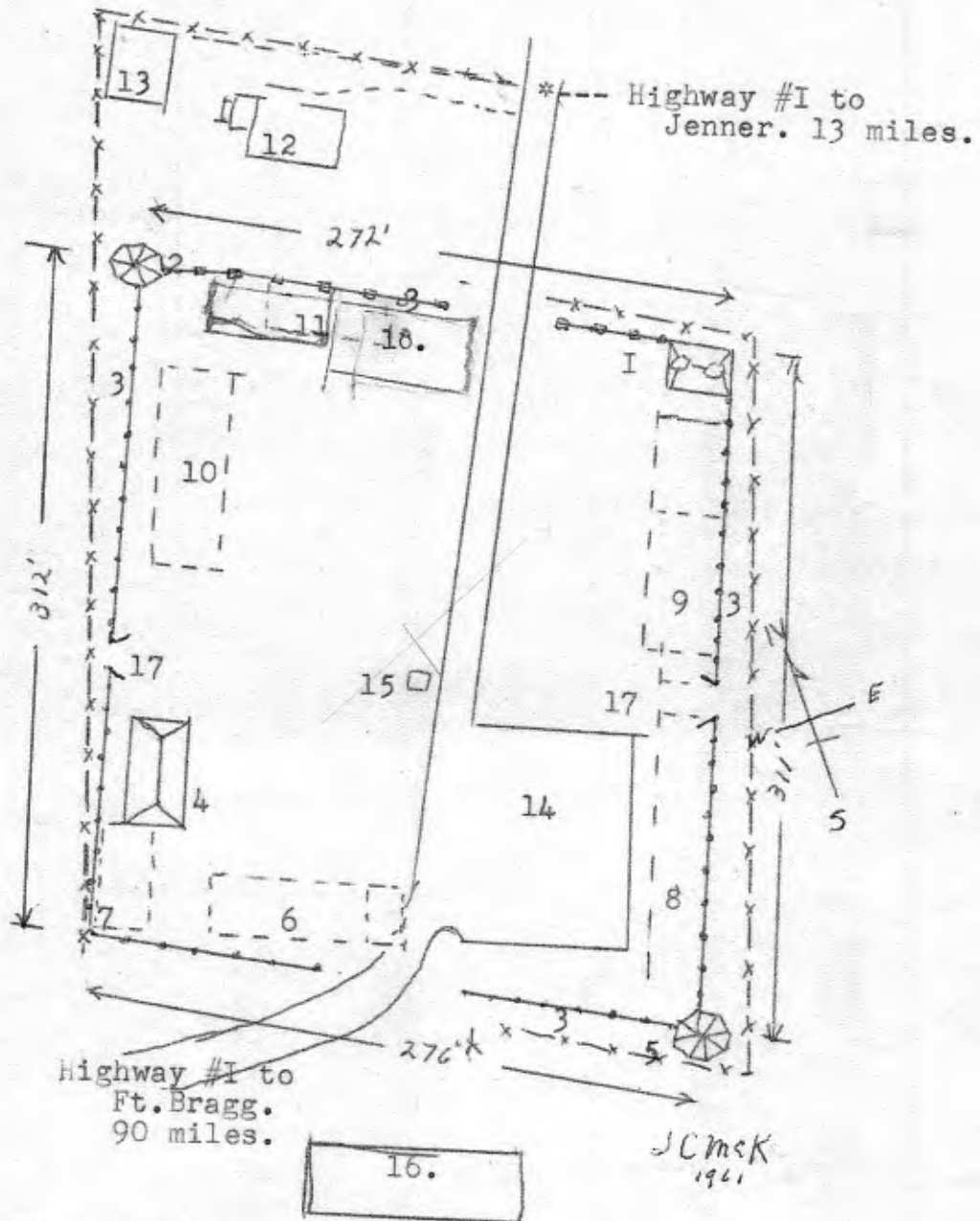
September 1858

SONOMA CO. CAL.

Published by A. S. Hall
484 Broadway, N.Y.

The Buildings of Fort Ross
Past and present

- | | |
|--|------------------------------|
| 1. The Chapel of Fort Ross.(restored) | 11. Small building(Site) |
| 2. The seven-sided Blockhouse (Restored) | 12. Ranger's Residence |
| 3. The 12 foot stockade.(Restored.) | 13. Garage |
| 4. The Commander's House(Restored.) | 14. Parking Lot. |
| 5. The Eight-sided Blockhouse(Restored.) | 15. Russian well(Excavated.) |
| 6. The Barracks Building (Site) | 16. Ft. Ross Store. |
| 7. The Fort Ross Hotel (site) | 17. Gates (Sally Ports) |
| 8,9 Barns & Blacksmith shop (site) | 18. Kuskov House(approx.) |
| 10 Warehouse (site.) | |



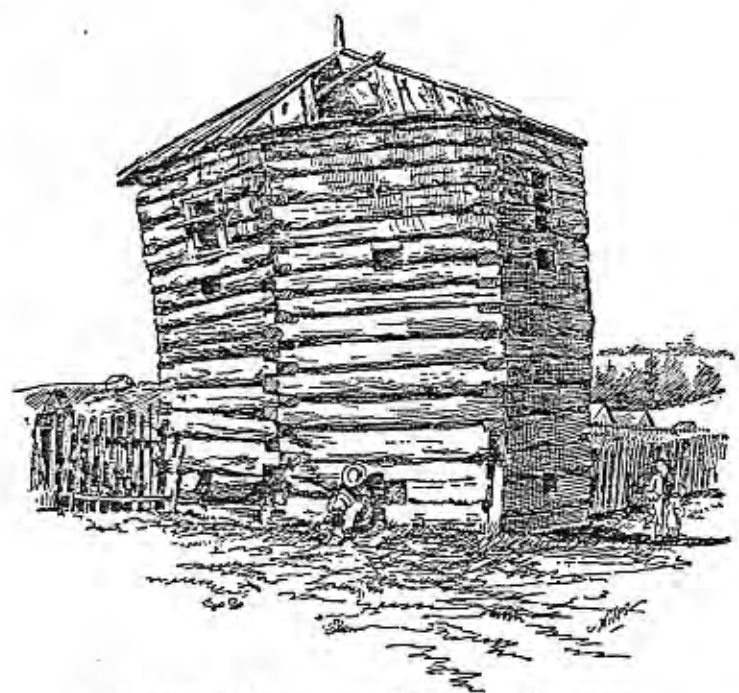
COPY

From "The Restoration of Fort Ross 1834 to 1961
April 10, 1961- J.C. McKenzie & Wm. B. Bishop
Bishop.

G-1-76 W/Pas

Dufour 1933

Fig 24



RUINS OF ONE OF THE FORT ROSS BASTIONS
 (From "The Romance of Fort Ross," by Gertrude Atherton;
The Californian, Vol. V, No. 1, Dec. 1893.)

Fig. 22

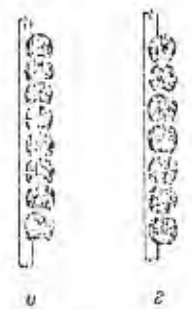
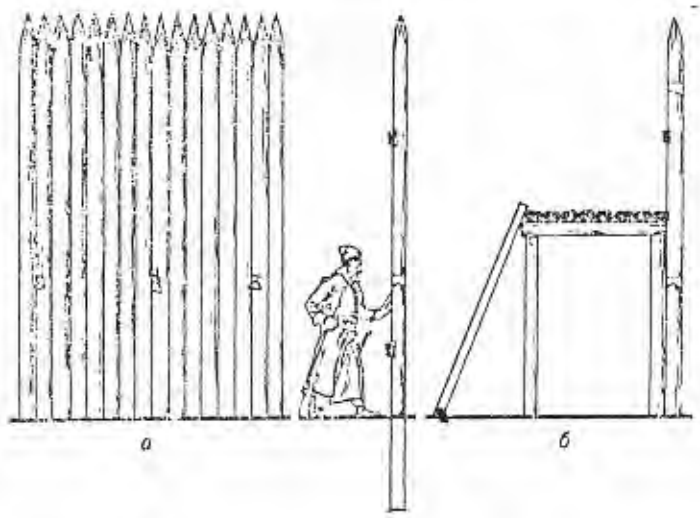


Рис. 1. Тыновые стены укреплений.
 а -- остовная ограда; б -- то же, с помощью для
 верхнего бей; а, в -- фрагменты плана тыновой
 стены Императорского острога.

Storkade wall
 fortifications

Balandin, 1974

Title: Vol. 17#2
 Job Number: 90,854
 File: 8tab
 Point Sizes 14 10 8 9* 6*
 Fonts: 8 15 125 146
 Operator: Lois

Fig. 23

Farris, 1981a

* From the galley proofs
 of Fathoming Fort Ross
 by Glenn Farris.

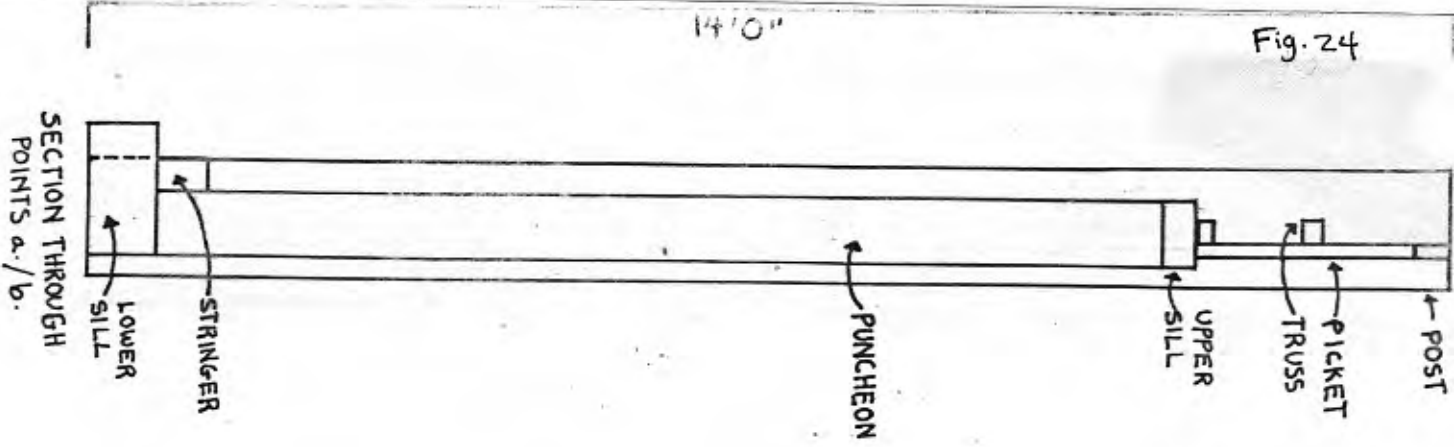
TABLE 1
 COMPARATIVE MEASUREMENTS OF BUILDINGS LISTED IN INVENTORY DOCUMENTS

Area Measured	Vallejo Inventory		Sutter Inventory		Revised Figures ⁵	
	brazas ¹	feet ²	toises ³	meters ⁴	sazhens	feet
Fort Ross Stockade						
circumference	172	1032	172	320	172	1204
height	2	12	2	4	2	14
Old Commandant's House (Kuskov House)						
length	8	48	8	16	8	56
width	6	36	6	12	6	42
New Commandant's House (Rotchev House)						
length	8	48	8	16	8	56
width	4	24	4	8	4	28
Commissioned Officers House (Officials' Quarters)						
length	10	60	10	30(?)	10	70
width	3.5	21	3.5	7	3.5	24.5
Barracks						
length	11	48(?)	11	22	11	77
width	4	24	4	8	4	28
Warehouse (Old)						
length	8	48	8	16	8	56
width	4	24	4	8	4	28
Warehouse (New)						
length	7	42	7	Not Listed	7	49
width	4	24	4		4	28
Kitchen (New)						
length	4	24	4	8	4	28
width	3.5	21	3.5	7	3.5	24.5
Warehouse for food supplies						
length	6	48(?)	6	12	6	42
width	3	18	4(?)	6	3	21
Chapel						
length	6	36	No Measurements		6	42
width	4	24	No Measurements		4	28
Well for water						
depth	2.5	15	2.5	5	2.5	17.5

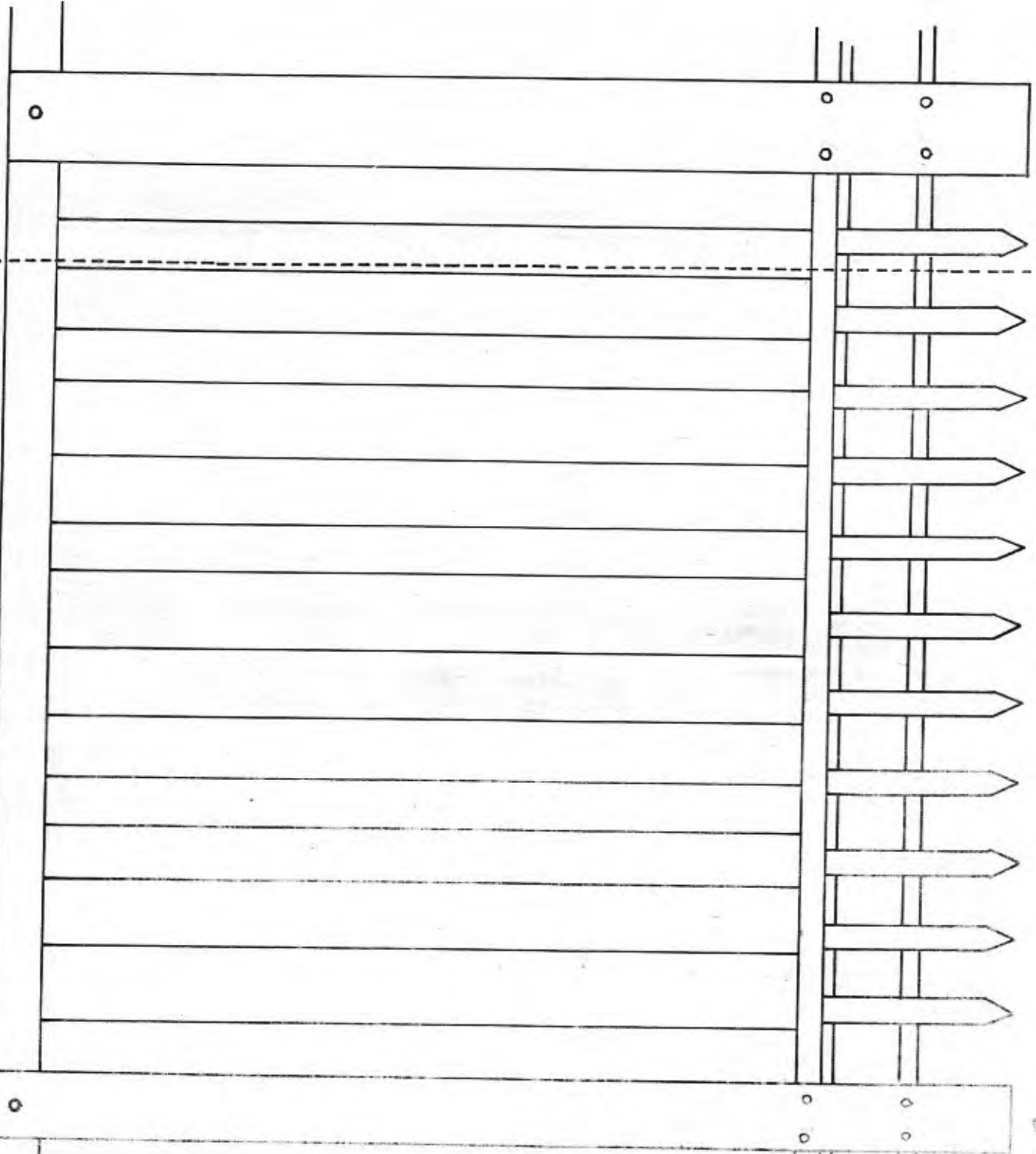
Sources: 1) Vallejo Papers, Spanish language; 2) Dufour 1933; 3) Sutter Papers, French language; 4) DuFlot de Mofràs 1842; 5) Author's calculations.

Note: For the sake of brevity only the structures within the fort are shown here. The inventory documents go on to list many buildings outside the fort as well as at the ranches and at the port of Bodega Bay.

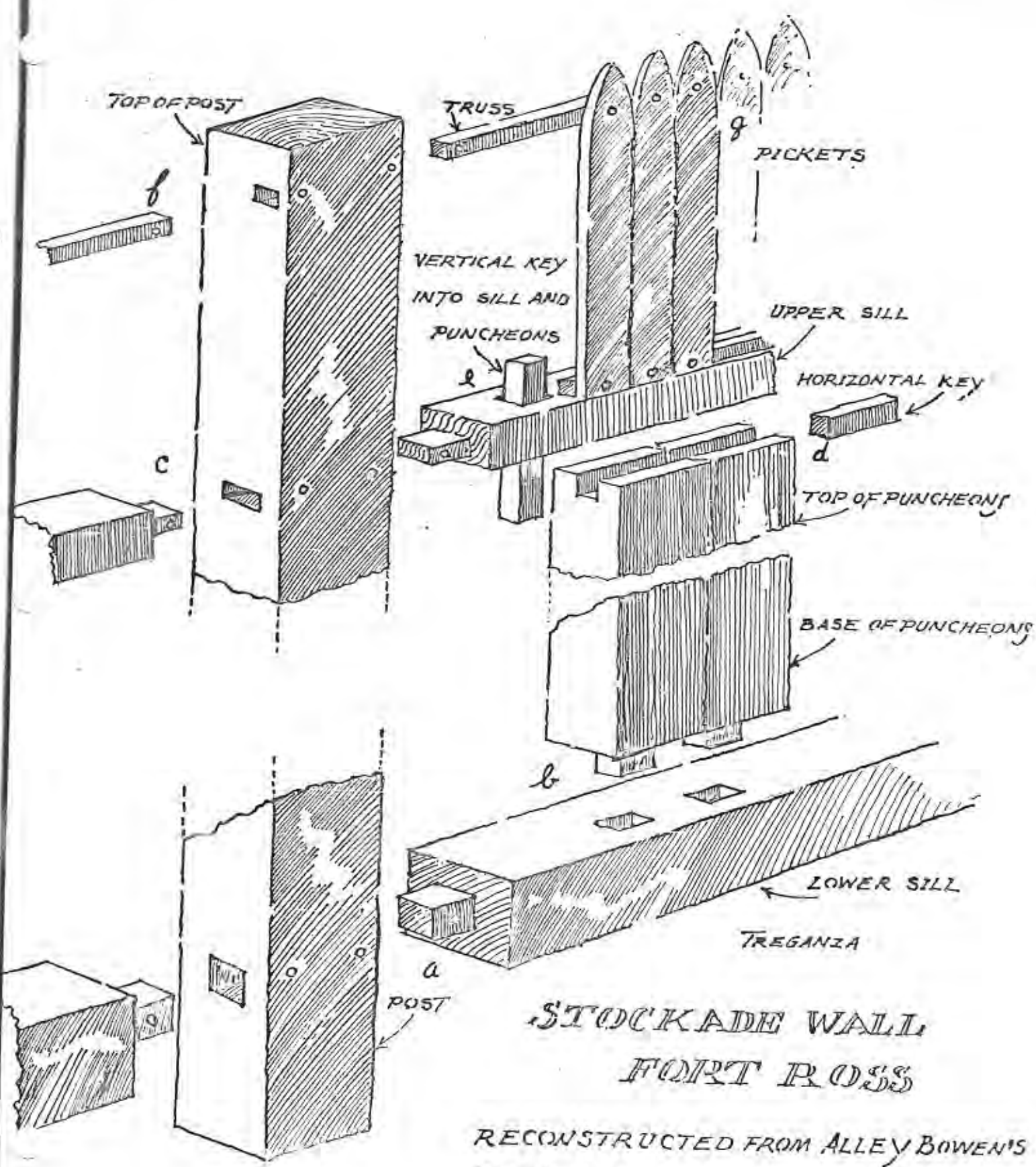
Fig. 24



SECTION THROUGH
POINTS a./b.



ELEVATION and SECTION of WALL, FT. ROSS
SCALE: 1/2" = 1'0" Drawn by DAVID RICKMAN 1-16-24



STOCKADE WALL
FORT ROSS

RECONSTRUCTED FROM ALLEY BOWEN'S
VERBAL DESCRIPTION IN 1880

FIGURE 3

Fig-26



On file, California Dept. Parks and Rec.
Interpretive Planning Unit.

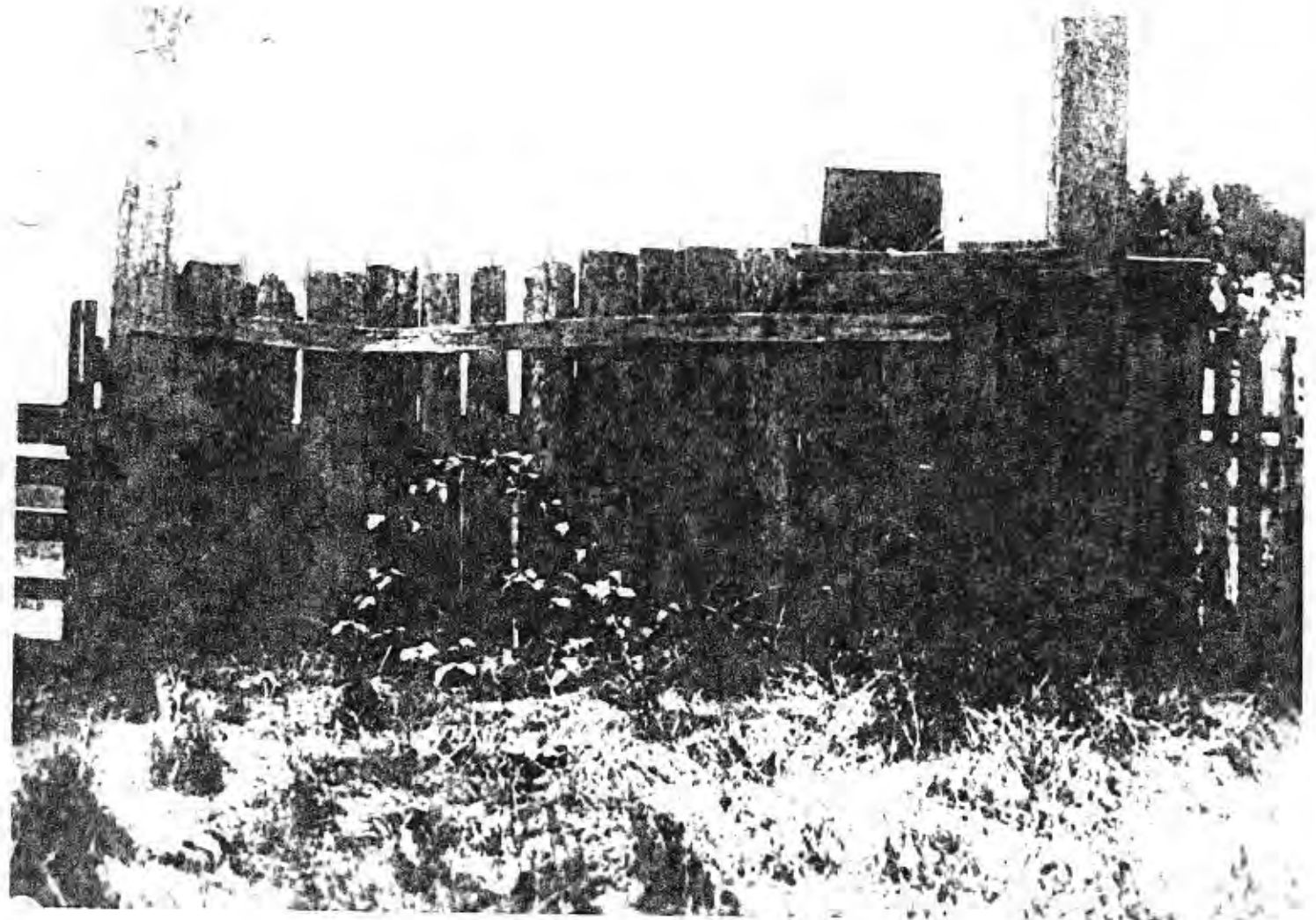
CC 1907

2-87

A.V. Sevires

"Jolly Point"

Fig. 27



Ca. 1910

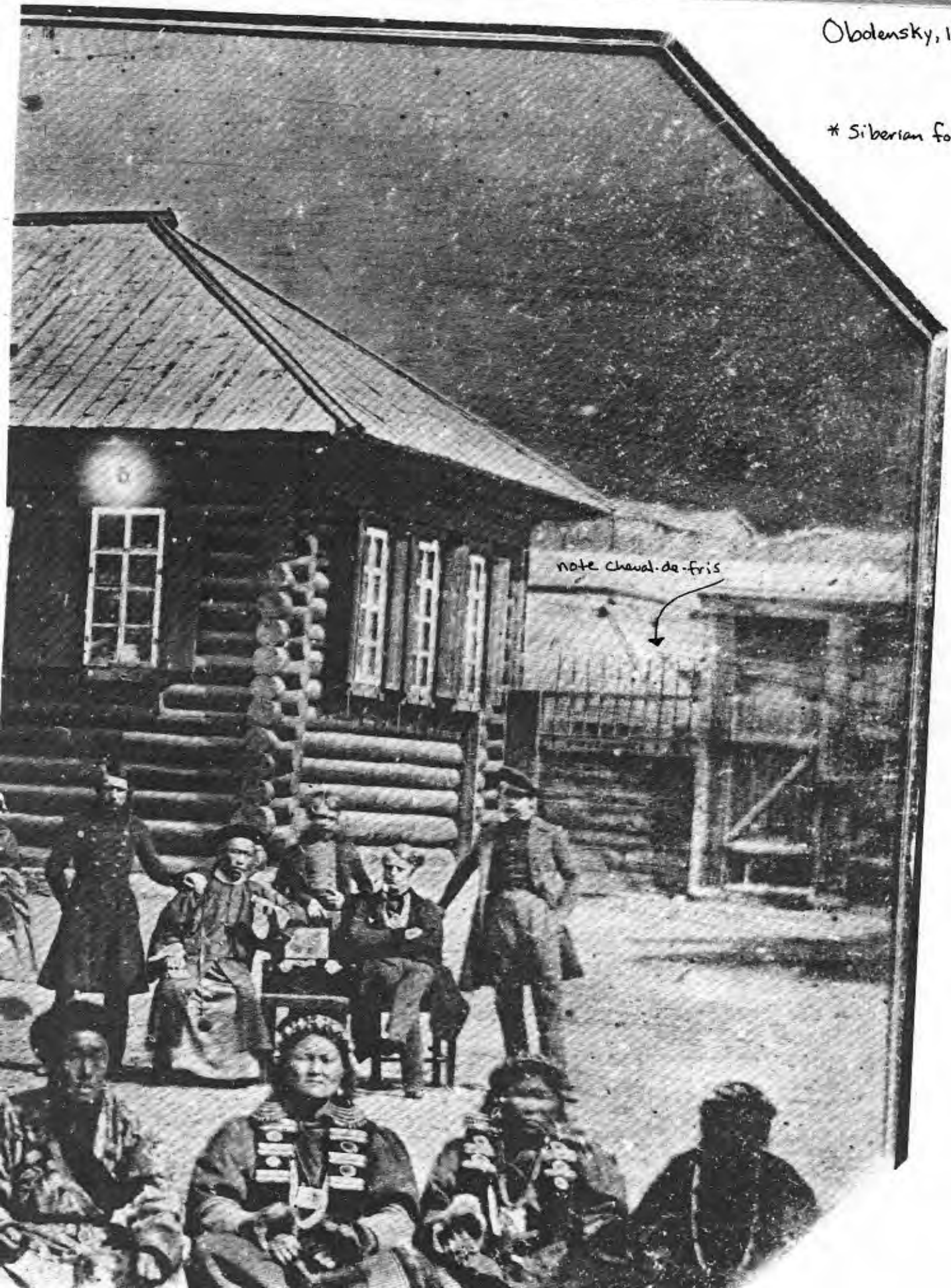
AV Files

On file, California Dept. of Parks and Res.
Interpretive Planning Unit

Fig. 28

Obolensky, 1979

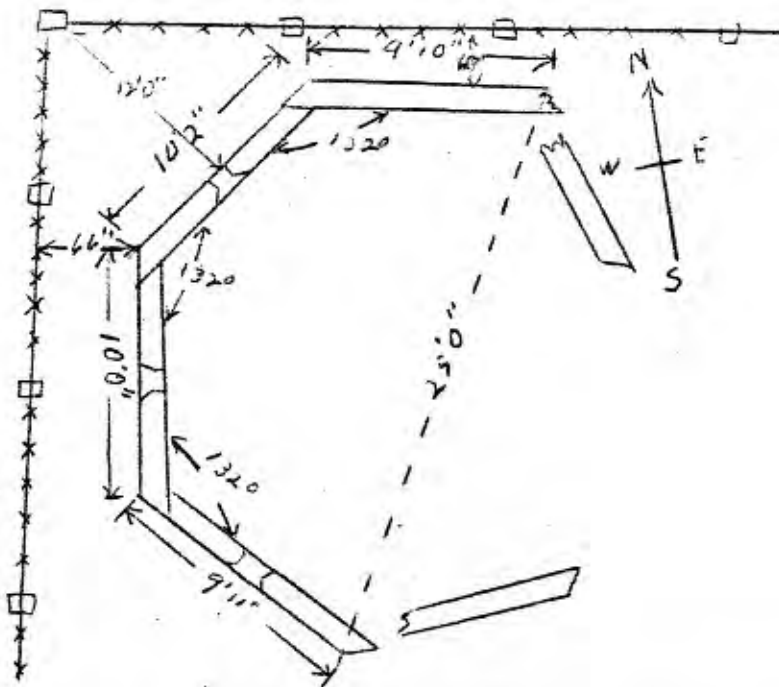
* Siberian fort, ca. 1850



note cheval-de-fris

THE RUINS OF THE ORIGINAL SEVEN-SIDED BLOCKHOUSE
 North corner, Fort Ross State Historical Monument
 March 23, 1948

15-2-36



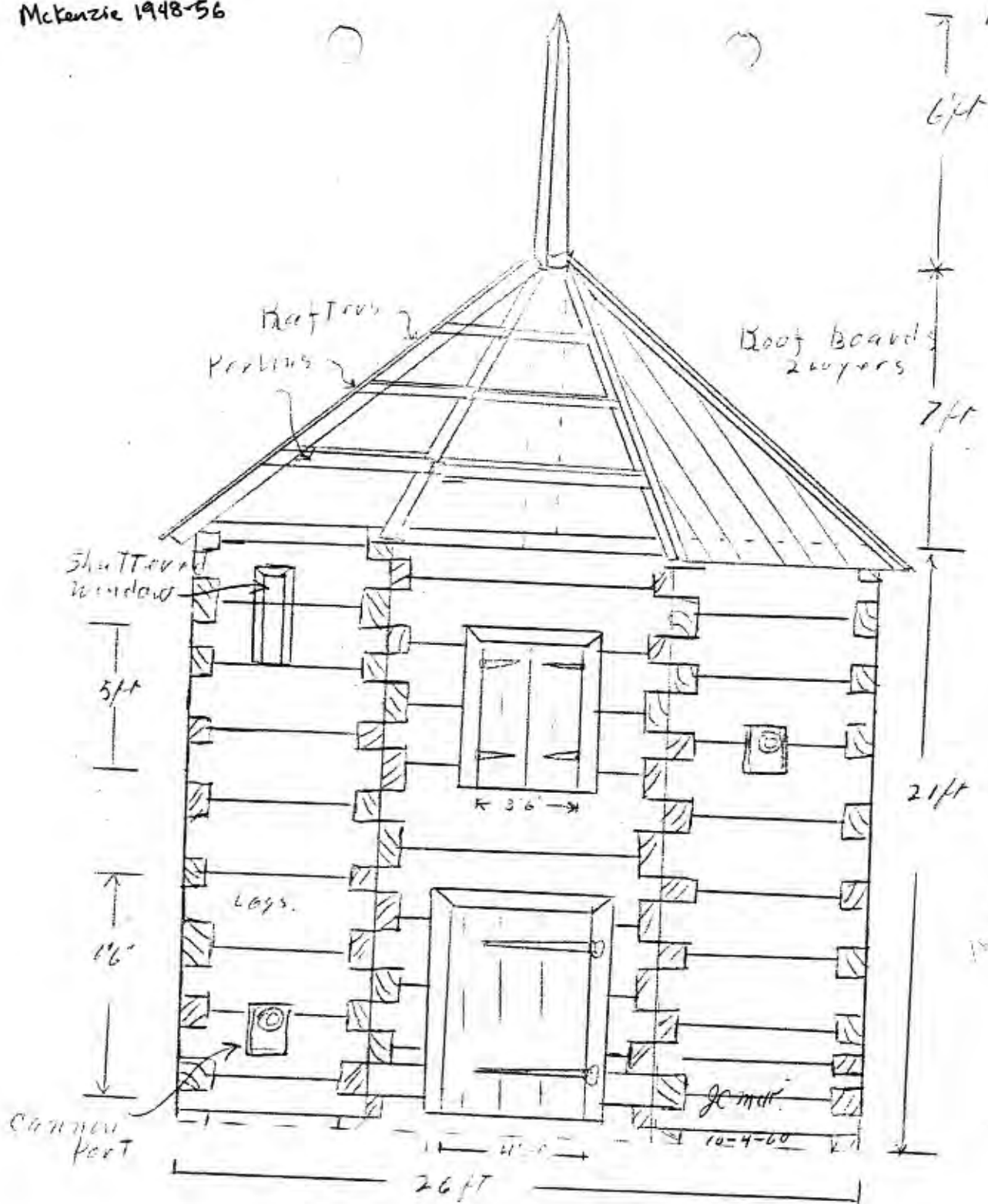
The following observations were made regarding the ruins of the original blockhouse at this corner of the fort: (March 23, 1948 Memo. To C. Mehlert from J.C. McKenzie.) "The standing sides measure 9'10", 10'2", 10'00" and 9'11" from outside corner to outside corner. The present cuts at the corners show three 132° angles----. Each outside wall now standing has a gun port on the ground floor. The iron staples which held the hard to secure these ports and the iron ring-pins which held the recoil lashings for the cannon are still in place at some of the old port holes."

To Dr. Hensley
 1-18-61

John C. McKenzie

Plat 4

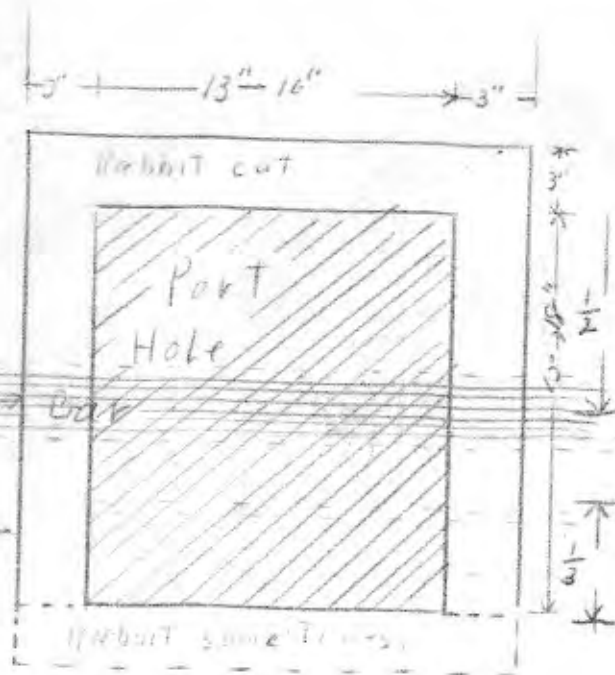
COPY



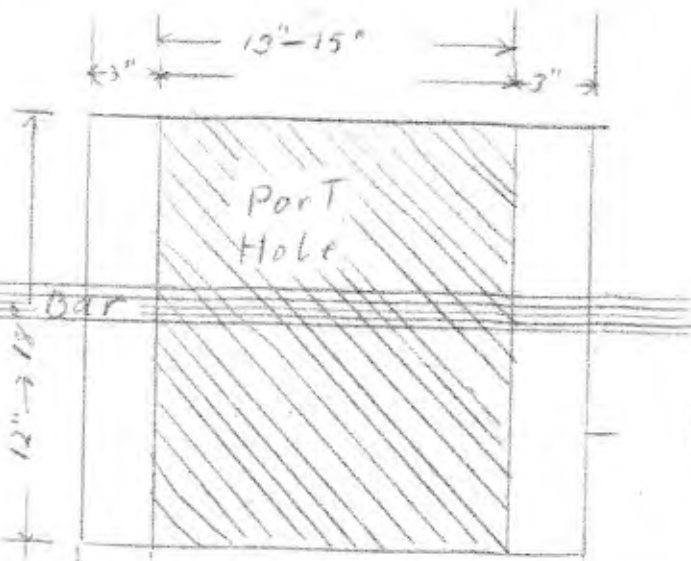
This is a construction study of the Eight-sided blockhouse at the south corner of Fort Ross. There were 6 cannon ports on the lower floor and only 5 on the upper floor. A door (shown) and three shuttered windows were on the upper floor.

15-6-5

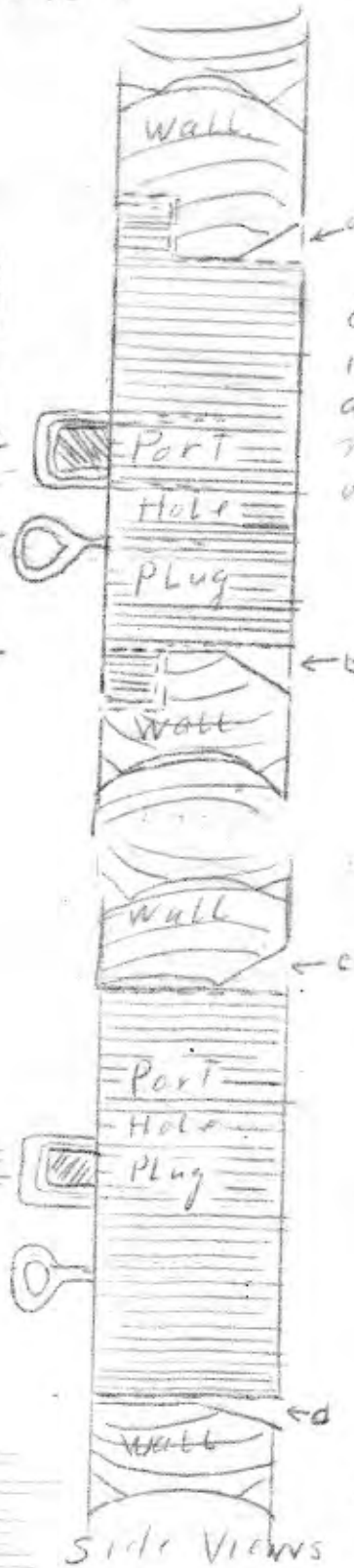
Port Holes or Gun Ports



Port Holes A + A'



Port Hole B



Carefully close in some and absent or nearly so in other ports.

McKenzie

The original gun ports varied in size and design. The opening were as large as 15" x 18" and as small as 12" x 12". Some had a Rabbit edge 3" deep and 3" wide on all sides, as in # A, or lacked it on the bottom as # A', or had none on the sides as # B.

P
Y

15-2-59

April 28, 1956

Mr. G.T. Kishbaugh, Superintendent

John C. McKenzie, Mon't Sup'r

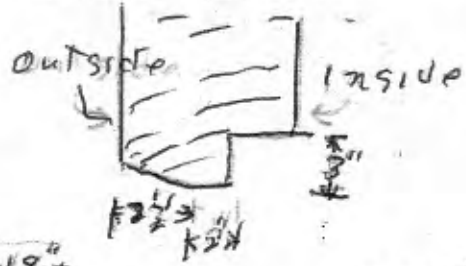
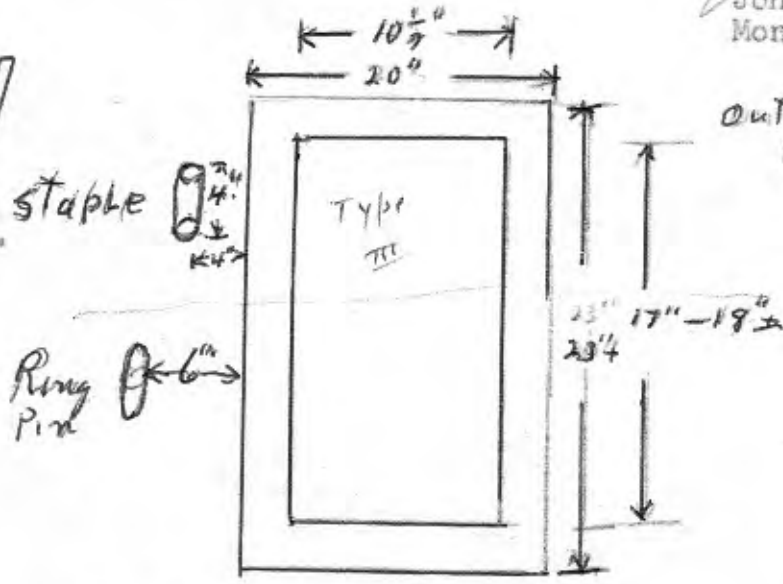
Size of Original Gun Ports in Blockhouse.

I took measurements on several of the old timbers from the original Blockhouse to determine the approximate size of the gun ports and the location of the iron staples and rings which were on either side of each port hole.

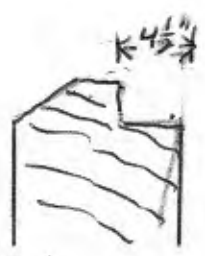
I estimate that the port holes measured 14 1/2 to 16" wide and 17 to 18 inches high, inside measurement of the opening. The opening was rabbited out for a width of three inches on the top, bottom and sides in the inside edge of the hole. This rabbit was to a depth of 4 1/2 to 5 inches depending upon the thickness of the wall timber. The outer side of the port hole was beveled back on all sides, top and bottom. See diagram below.

John C. McKenzie
John C. McKenzie
Monument Supervisor

C
O
P
Y

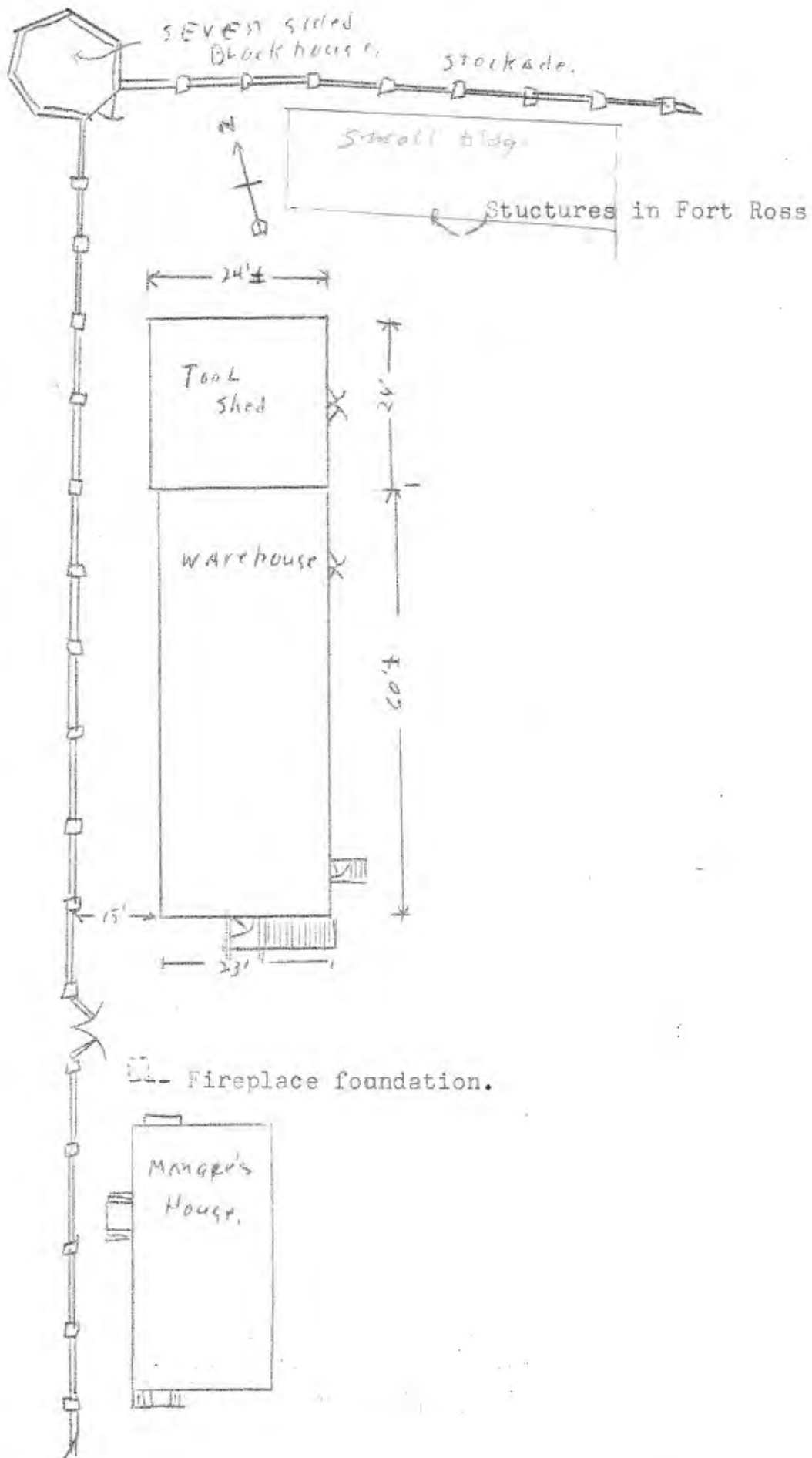


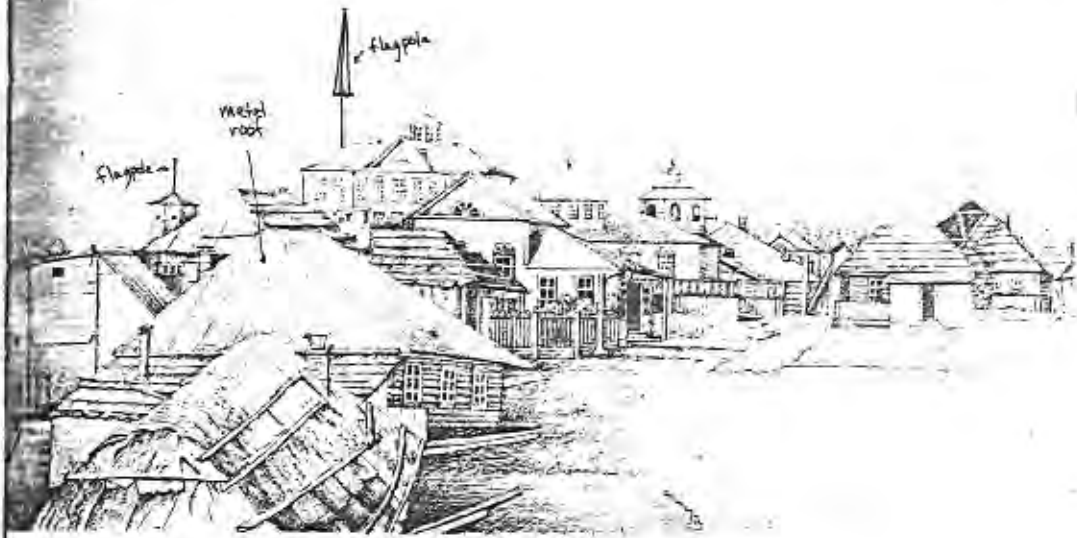
view looking down on Port hole.



To Mr. Hickey
1-18-61

J.C. McKenzie



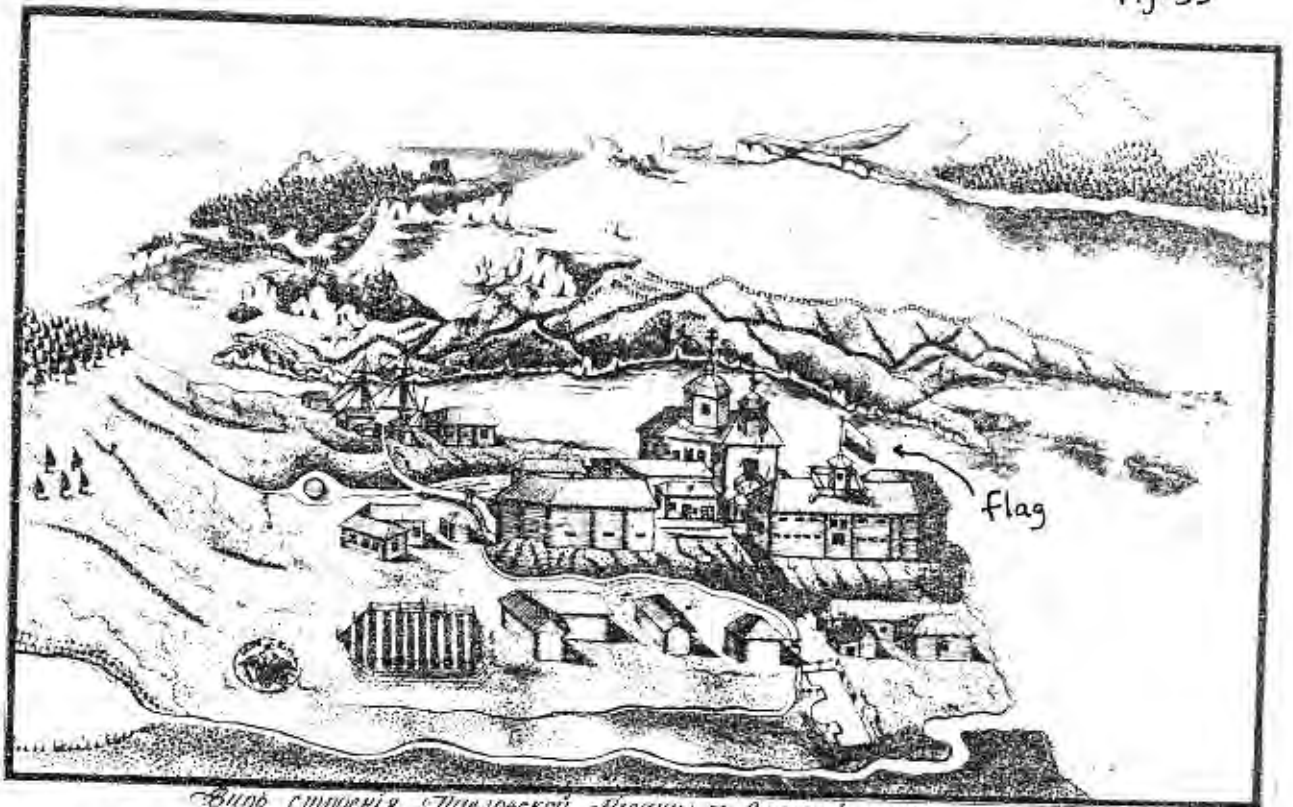


No. 29

Drawing 29 (1142-16).⁷³ "Sitka Island."⁷⁴ An inscription

Kodiak in 1798

Fig. 35



Видъ строения Палатской Миссии съ северной стороны 1798 года
 * Note size of flag.

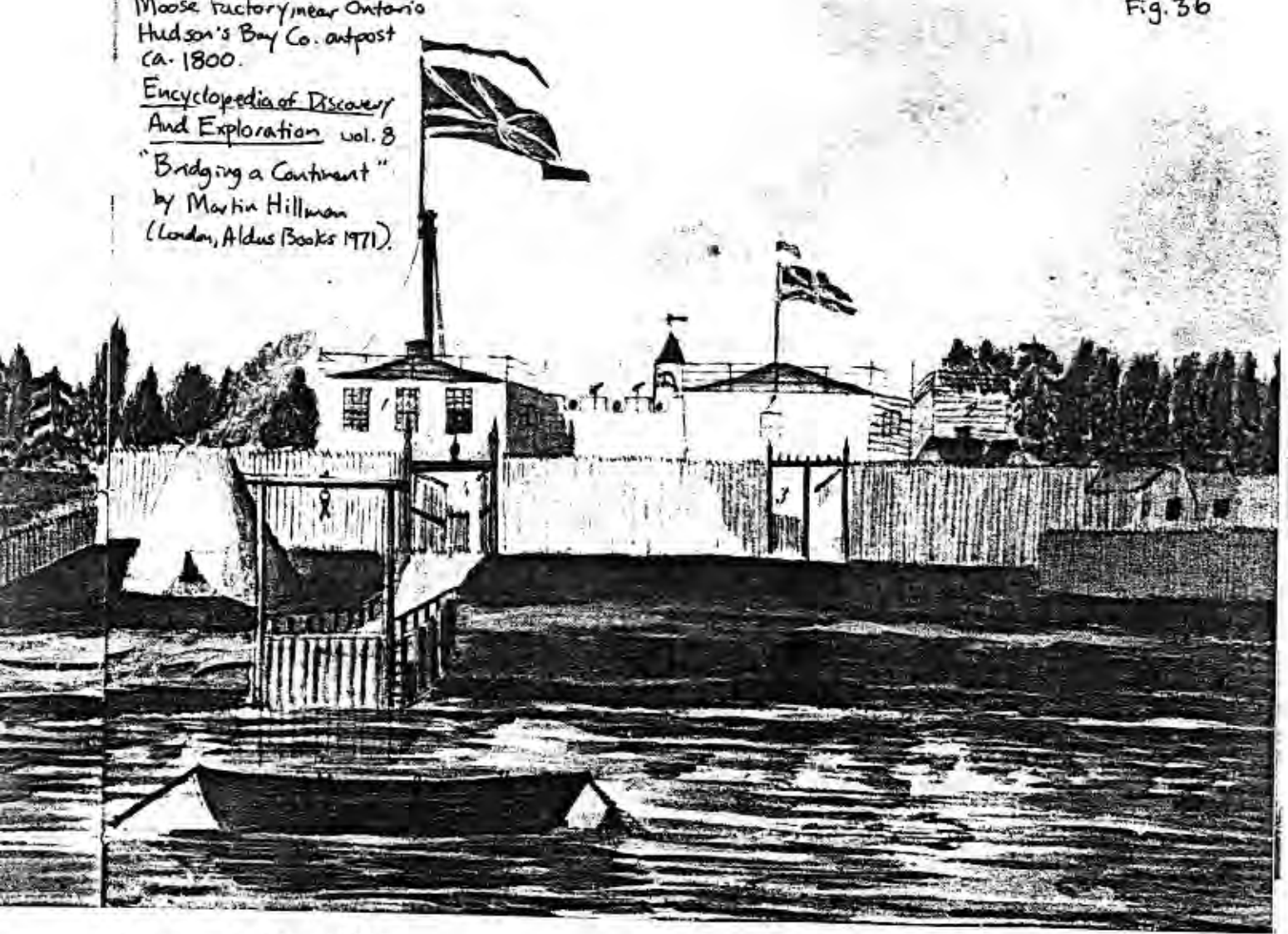
Рис. 6. Павловская таверна на острове Кадьяк: вид с северной стороны. (1798 г.)

Fig. 36

Moose Factory near Ontario
Hudson's Bay Co. outpost
ca. 1800.

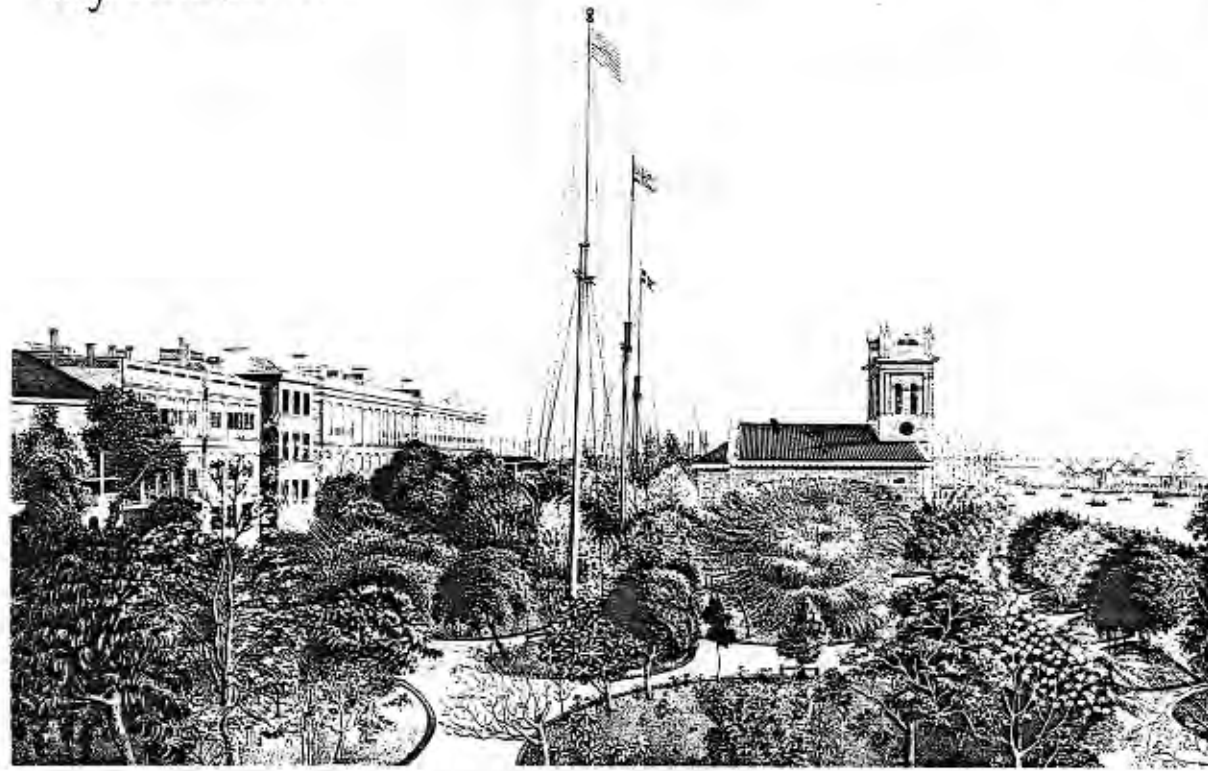
Encyclopedia of Discovery
And Exploration vol. 8

"Bridging a Continent"
by Martin Hillman
(London, Aldus Books 1971).



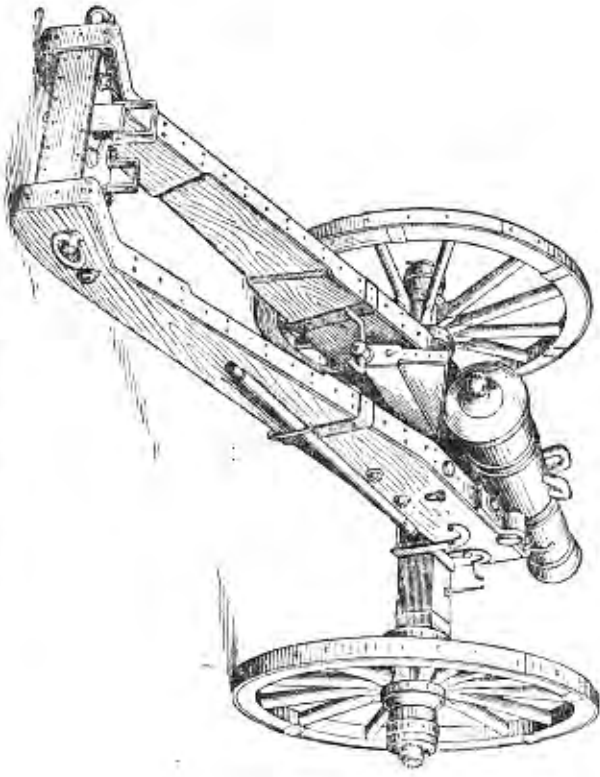
Vaughan and Holm 1982

Fig 37

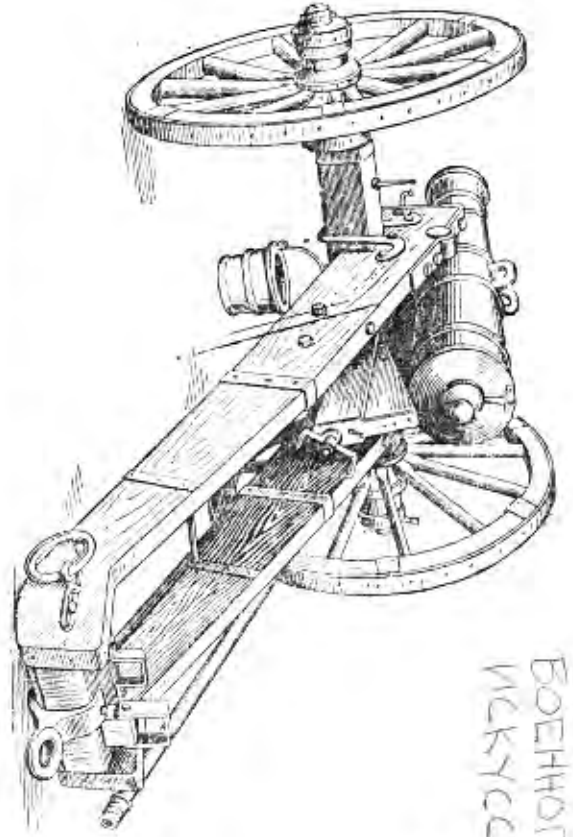


Western factories (left) and church at Canton. (Tinqu, Peabody
Museum, Salem, Mass.)

1/4-дюймовый цилиндрогор. орудия 1805 г.



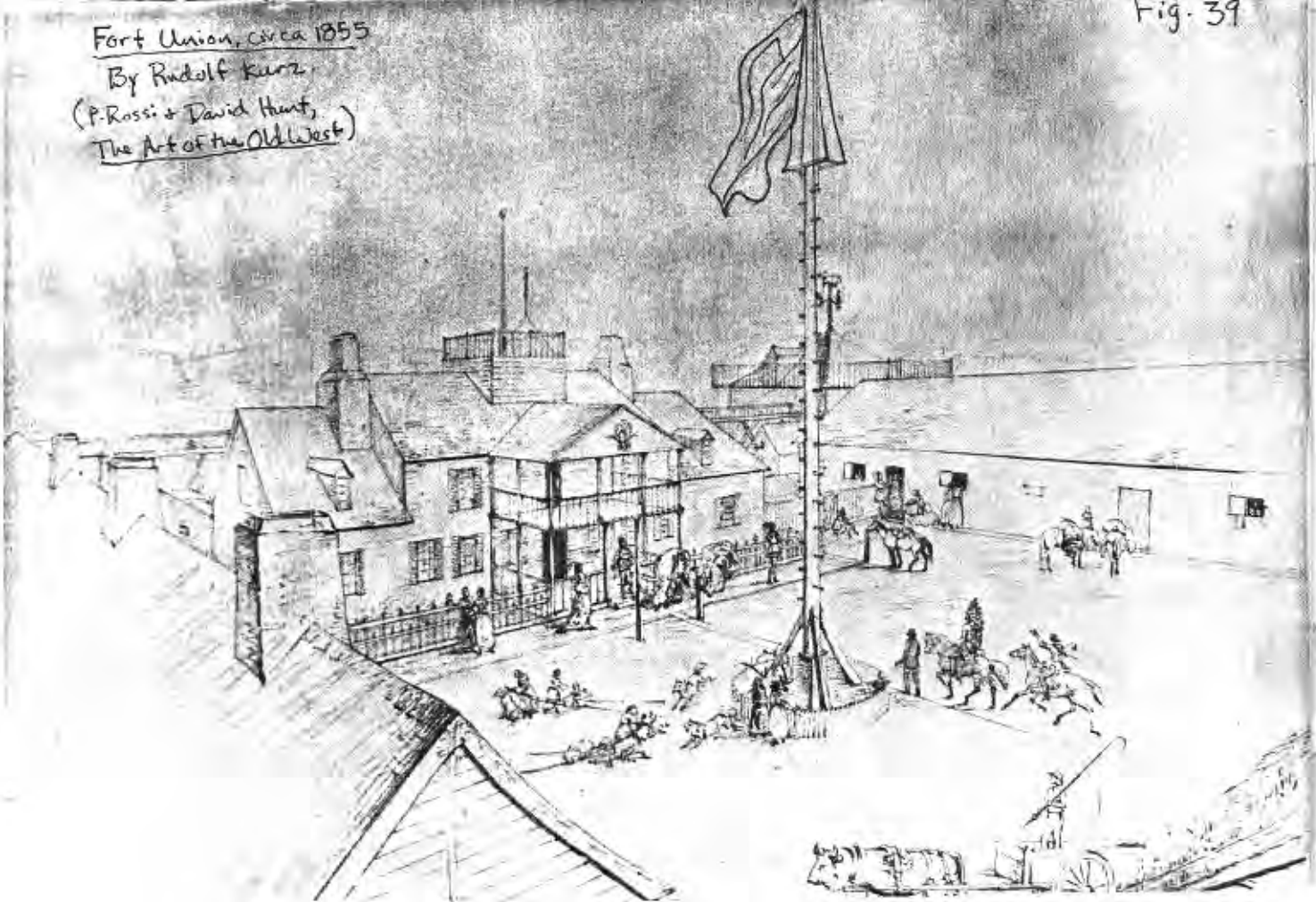
12-дюймовая полковая пушка орудия 1805 г.

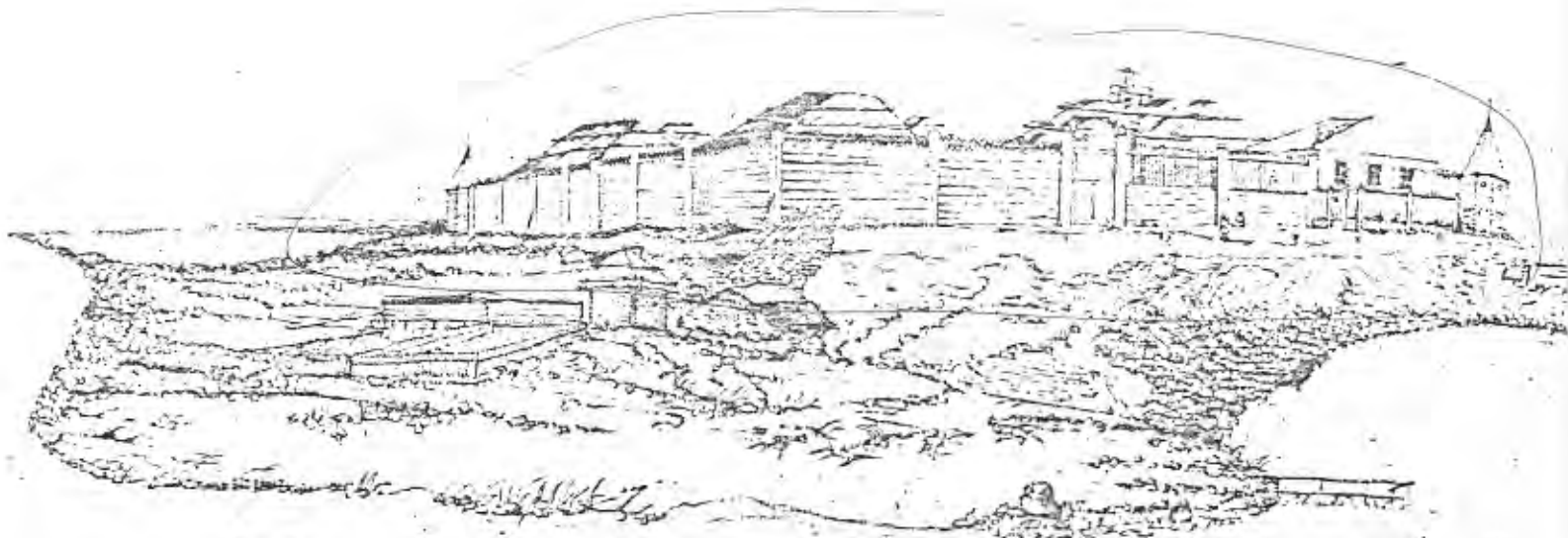


ИСТОРИЯ
ВОЕННОГО
ИСКУССТВА

11.27
573
5.2
5.0

Fort Union, circa 1855
By Rudolf Kurz
(P. Rossi & David Hunt,
The Art of the Old West)





No. 22

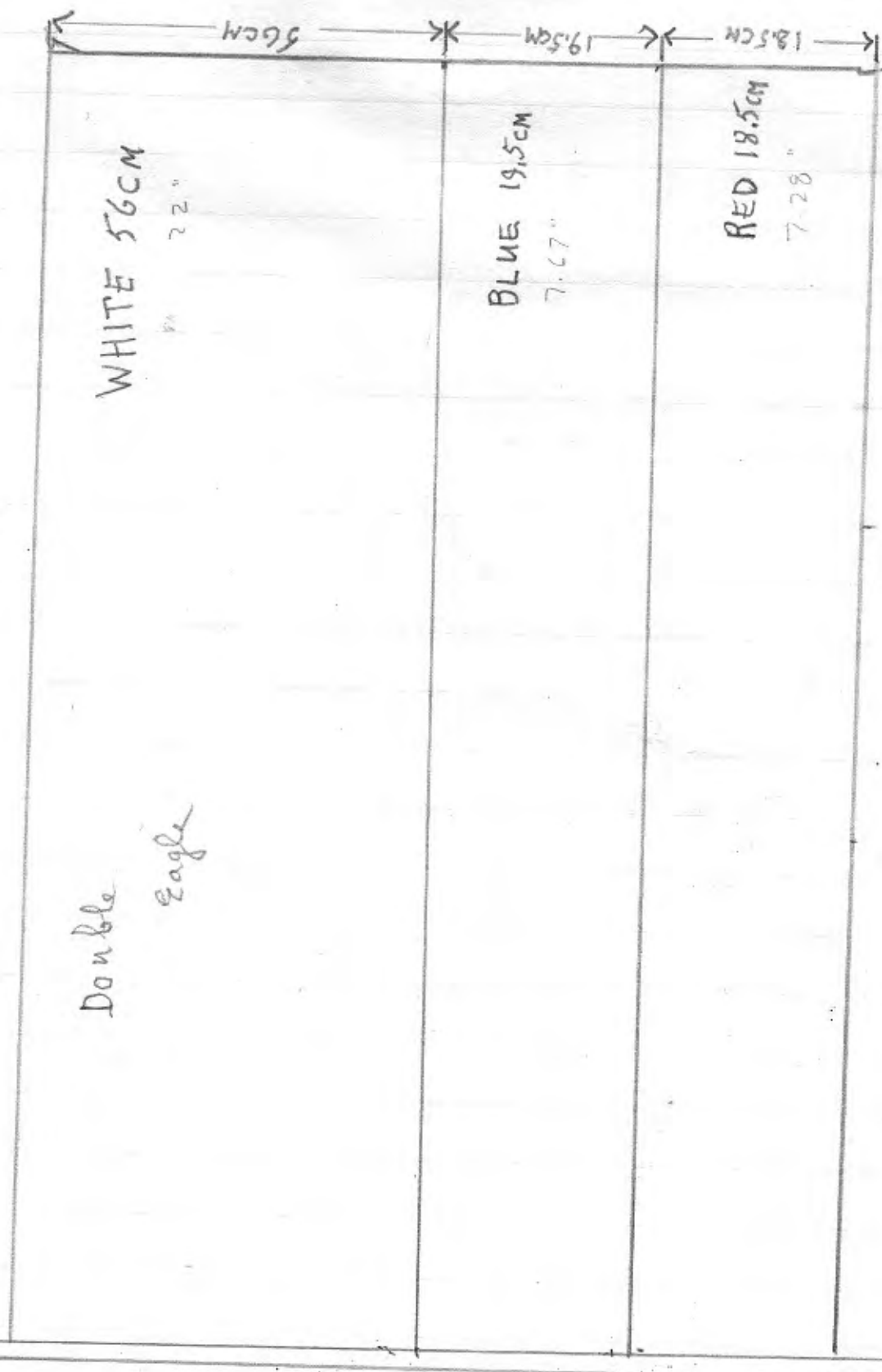
OHES HIST. QUINT. June 1972



Drawn by Professor Nicholas Rokitiavsky

94 X 168 CM.
37" X 66"

0.3937 inch



WHITE 56CM

BLUE 19.5CM

RED 18.5CM

Double
Eagle

0.3937
794
1348
35433
355728

0.3937
168
3494
24922
3977
654419

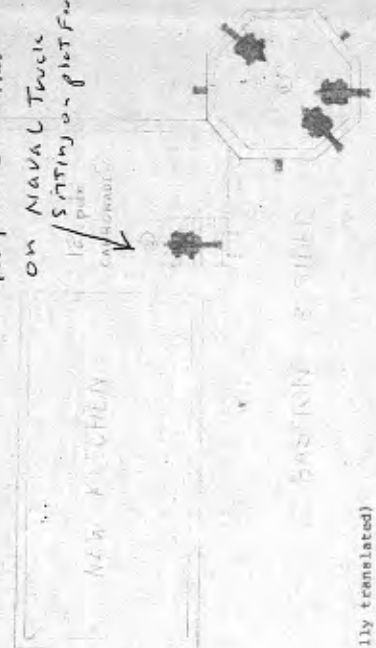
29.5 x 65.4

19.5
18.5
38.0
56.0
94.5

132
132

6 pdr. Howitzers
 16 pdr. Howitzers
 on Carriages

472 pdr Cannonade
 ON NAVAL TOWER
 SITTING ON PILOT FIRM
 ON NAVAL TOWER



16 8 pdr Cannons
 on Naval Towers

Cannon placement

1. Each bastion containing 6 cannons of 8 calibre (Vallejo, Atherton, de Moiras, Figueroa)
2. 4 12 pdr carronades piercing the walls (from Dubaut-Cilly, 17 lb carronades Slacum, de Moiras)
3. 3 cannons in front of the Rustov House (one of which is a brass 9 pdr. (Vallejo and Belcher)
4. 4 6 pdr brass howitzers fronting the main gate (Payeras, Duhaut-Cilly, Vallejo, Atherton, Slacum)
5. 2 violentas beside the fur barn staircase (Vallejo)

Eyewitness Accounts

1820 Payeras -- "In the northern corner stands a bastion two stories high containing five cannons. Another bastion occupies the south corner and contains four cannons...the center of the presidio is occupied by four 'violentas' mounted on carriages."

1821 Louis Antonio Arzuvello -- "Cannon were in the corners of the walls and within the fort there were four more...."

1828 Duhaut-Cilly -- "On the four sides, corresponding to the four cardinal points are four doors, each one defended by a mortar with fixed breaching, showing at a port hole, as in a ship: inside also were two field pieces of bronze, with their gun carriages."

1833 Mariano G. Vallejo (not yet fully translated)

Bastions - each contained six cannons of 8 calibre
 3 cannons of the same calibre near the main gate
 2 'violentas' "located laterally on the staircase of the main building."

1824 Jose Figueroa -- "These (Bastions) contain six cannons on each. Various cannons are also placed throughout the square."

1836 Sir Edward Belcher -- "These towers, armed with three guns each, in a second story, are on level with the top of the fence... In the centre of the yard or square, in front of the governor's staircase, a brass nine-pounder gun commands the gateway..."

1836 Faxon Dean Atherton -- "... each tower mounting six guns, and perhaps a dozen others distributed about the square."

1837 William A. Slacum -- "The fort is an enclosure 100 yards square, picketed with timber 8 inches thick by 18 feet high, mounts four 12 lb. carronades on each angle, and four 6 lb. brass howitzers fronting the principal gate..."

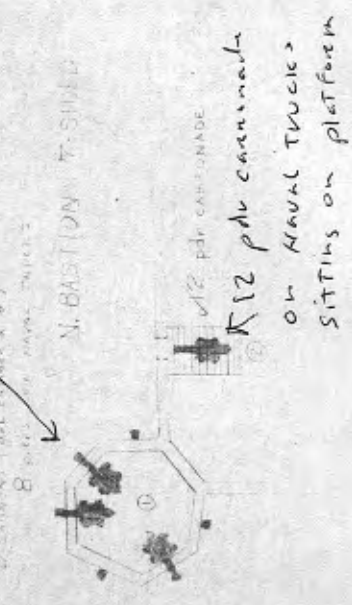
1840 DuPoi de Moiras -- "The enclosure, formed by thick timbers, is four meters in height, it is pierced by openings protected by cannon, and at opposite corners two hexagonal bastions are erected, of two floors, and armed with six guns."

1841 John A. Sutter (from letter written in 1879) -- "From the Russians I have got only one fine brass field piece (mounted with caisson) (they would not let me have more) This piece has been cast in St. Petersburg 1804..."

Fig. 43
 Pritchard and Tucker 1979

DESIGNED	REVISIONS	RESOURCES AGENCY OF CALIFORNIA DEPARTMENT OF PARKS AND RECREATION
DRAWN 7-24-77	CHECKED	
APPROVED _____		DATE _____
DRAWING No.		SHEET No. 24 OF 24

✓ 6 8 pdr cannons on Naval Trucle



✓ 12 pdr carriage
12 pdr cannons on Naval Trucle sitting on platform

M. BASTION



CHAPEL



✓ 12 pdr carriage
on Naval Trucle sitting on platform



MESS HALL

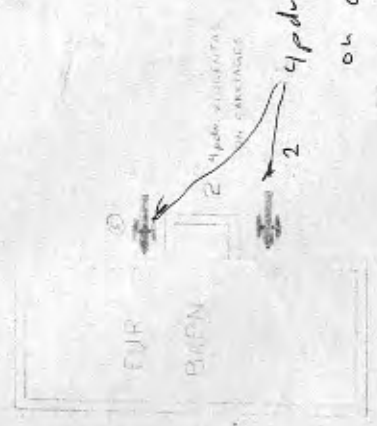


3 cannons on carriage
12 pdr cannons

✓ 3 pdr cannon on carriage

✓ 4 pdr Violentia (Russian) on Carriages

Carriages



BARRACK

4 pdr Violentia (Russian) on Carriages

✓ 4 pdr Violentia (Russian) on Carriages

on Carriages



EMPLOYEES BARRACKS



12 pdr carriage

✓ 12 pdr. Carriage

on Naval Trucle sitting on platform

O'Brien, 1980



Fig. 44.

The many visitors to Fort Ross — traders, officials, sailors, and travelers — were probably given temporary quarters in the Official's Barracks. Perhaps they would stay a few days, conducting business and exchanging news, and then depart for the next port of call.

O'Brien, 1980

The Kuskov House served as the trading center for the colony. After Rotchev built the new commandant's house in 1836, it is possible the living spaces in the Kuskov House provided comfortable lodgings for the guests, such as the scientists, who stayed for long periods.



DRAWINGS ON BOTH PAGES BY ERIK VAUGHN

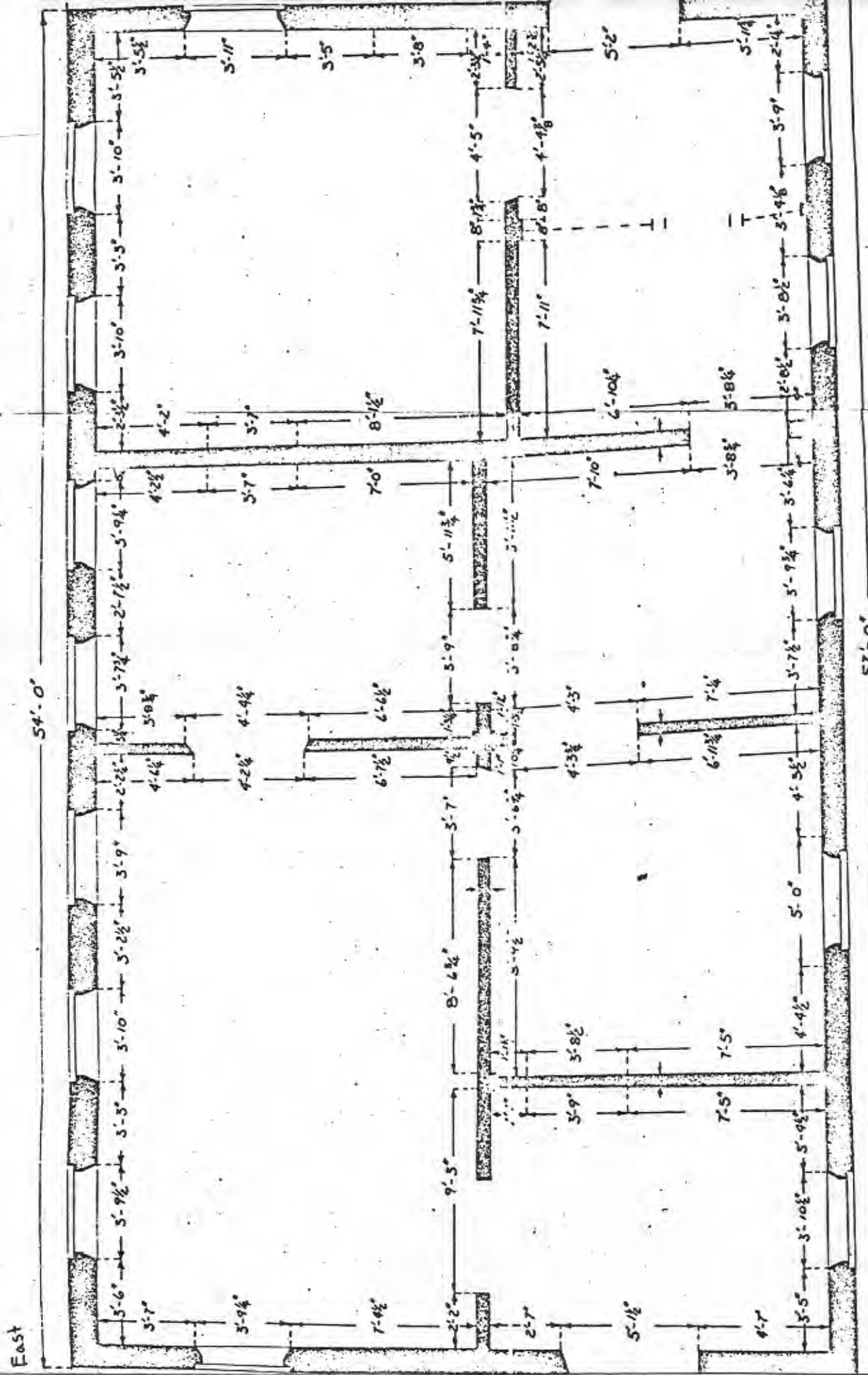
Fig. 45

Official's Quarters, Ross
prob. prior to 1906

O'Brien, Ft. Ross
(1980).

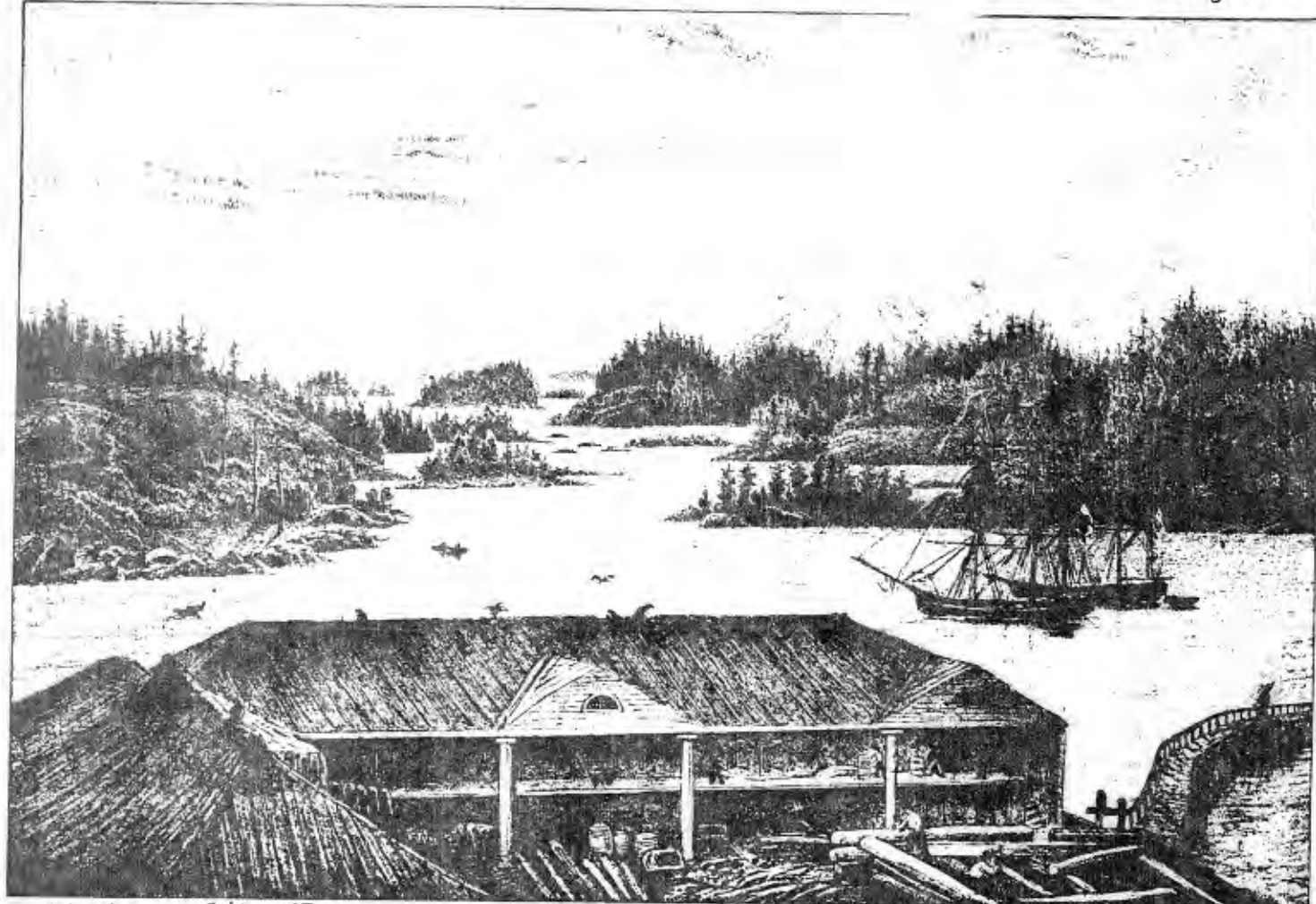


Fig. 46



Commandant's (Rotchev) House
 Fort Ross. Scale: 1/4" = 1'0"
 From Ynez House, M.A. Thesis, 1952

NORTH
 ↙



Warehouse in Sitka, 1830s

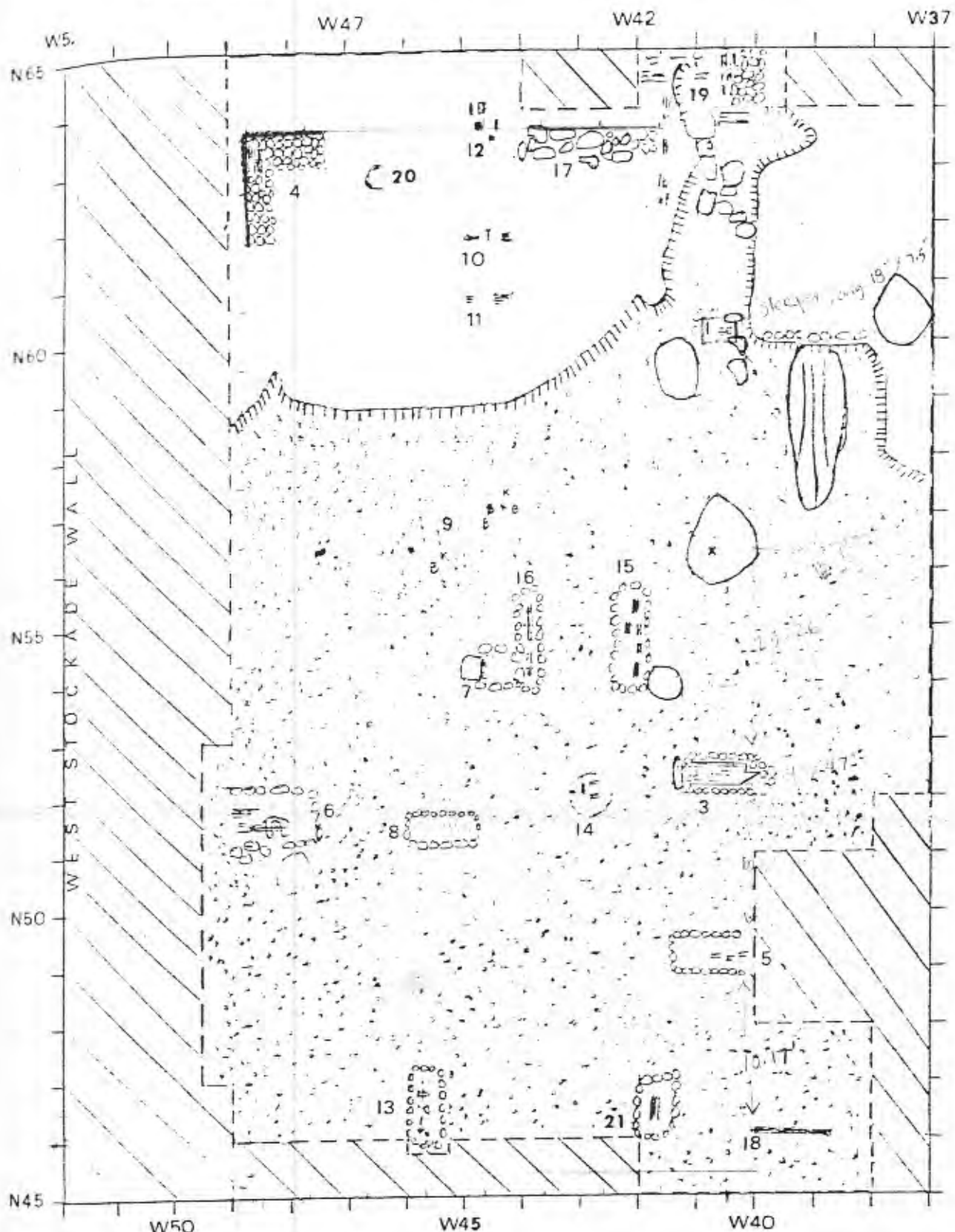
Fig. 49



Same building, American era.

FORT ROSS FUR WAREHOUSE

MAP 2
Fig. 50



KEY

- rocks ○
- rocky fill [stippled pattern]
- feature number 6
- wood [horizontal lines]
- unexcavated area [diagonal lines]
- limit of rocky fill and bedrock [dashed line]



SCALE
[1 M]
G. FARRIS
8-28-01



Figure 7. Photo of the Old Warehouse circa 1878.

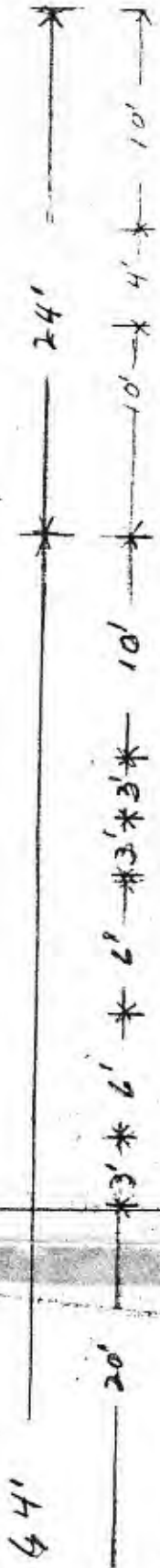
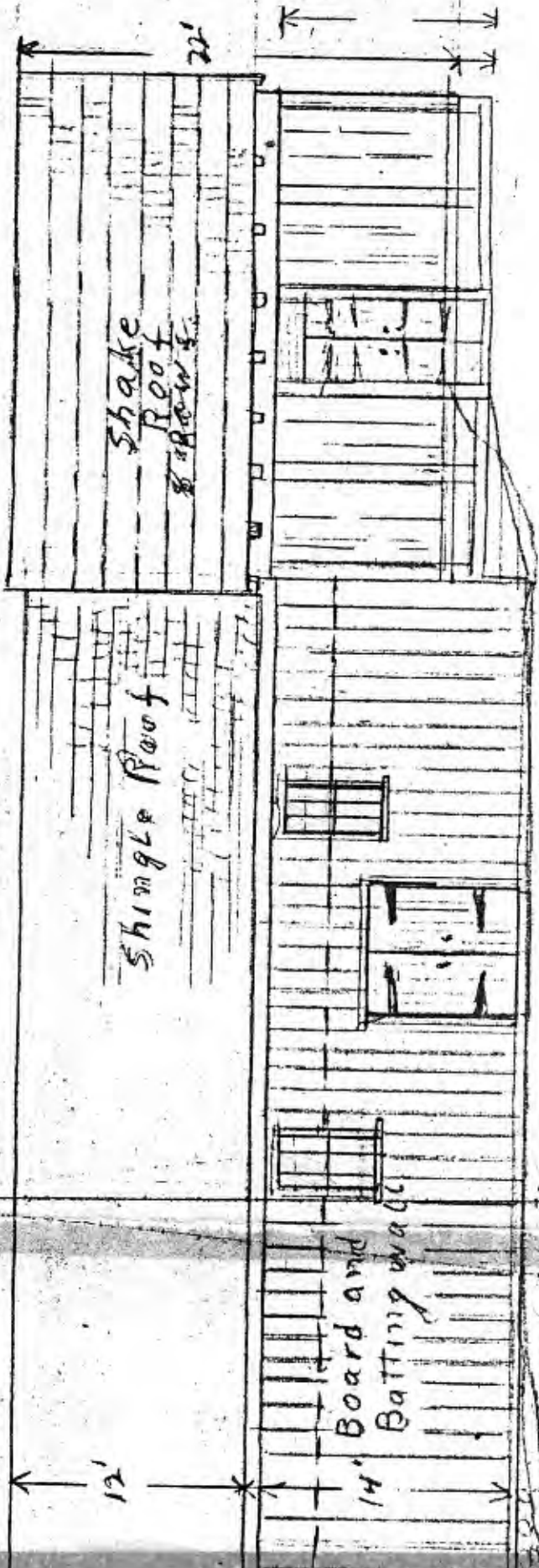


Figure 8. Photo of the Old Warehouse circa 1890

17-1-65

Warehouse and Tool Shed at Fort Ross S.H.M.

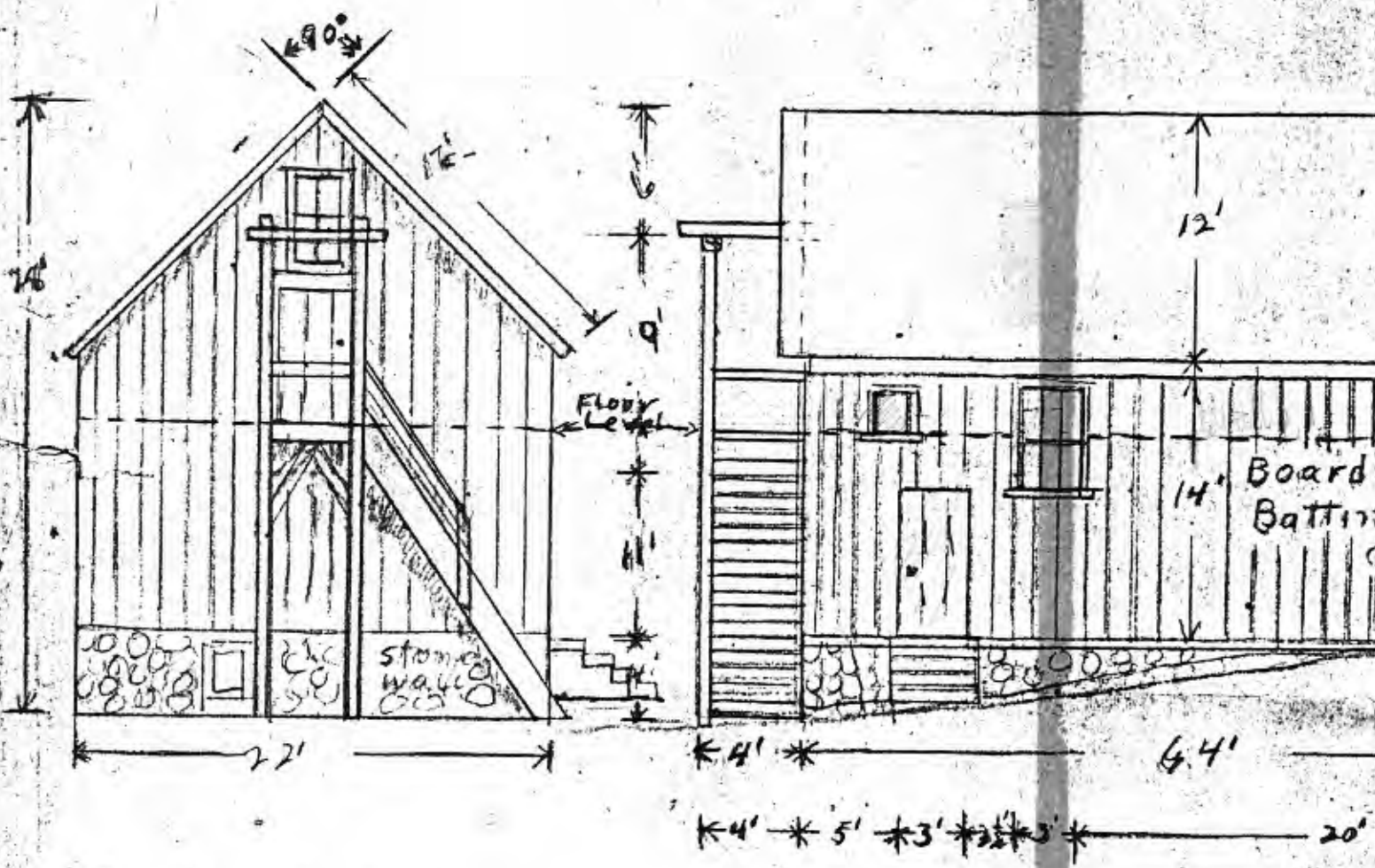
Drawn by John McKenzie



Old Tool Shed
 Front view
 Scale 1/8" = 1'

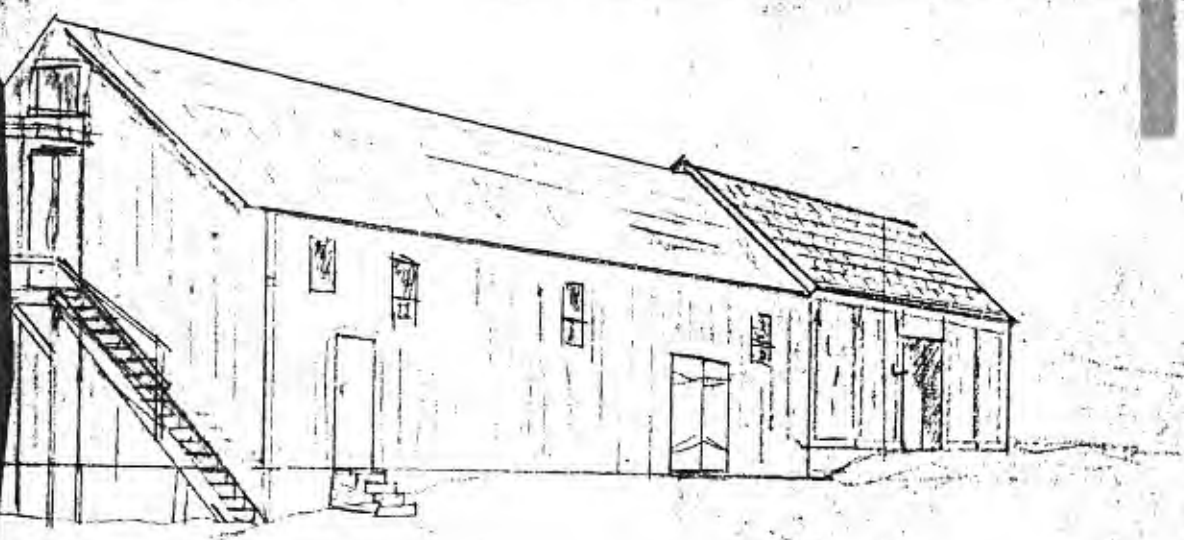
Front View

The Old Warehouse



Southwest End

Front View



21001 N. Coast Highway
Jenner, Ca. 95450

April 9, 1985

David Wickman
12 Rayfield Road
Westport Ct. 06880

Dear David:

I have copied the proportions of a traditional Russian Orthodox Cross as given to me by two Orthodox clergymen.

Regarding the authenticity of the details of the Fur Barn: Every drawing of the fort which I have seen done during the 1812-41 period indicate a large building at this site and all show a "hip Roof". I haven't been able to determine if the building had one or two stories. The "Tool Shed" at the north end of this building is clearly shown similar in construction to the walls of the Chapel and barracks building. Archaeology at the site of the "Fur Barn" confirms that a large building once here. Trade goods and other small trade items have been found on the site. Traces of an old log wall have been found. Old drawings and photographs show ~~the~~ vertical boards covering the exterior walls and a big exterior frame stairway at the south end of the building. Both features are contrary to Russian construction of the 1812-41 period at Ft. Ross. It is interesting to note that the logs on the east side of the Rotchev House were flattened to receive a layer of similar vertical exterior boards. So it is possible the Fur Barn was a log structure with a covering of vertical boards. The stairs at the south end of the Fur Barn is obviously made of milled lumber and is of questionable authenticity. Mr. C.A. Call told me that there was an internal stairway at the north end of the building. It met a door from the Fur Barn into the "Tool Shed". Such a stairway is consistent with stairs in the blockhouses. One of the Call sisters fell down this stairs and broke her arm as a child. All the roofs on this building are indicated to be grooved long boards overlapping from the eave to the peak of the roof in two layers. These grooves were up to two inches wide and 3/4 of an inch deep in original roof boards. Note that the windows and doors indicated on the east side of the Fur Barn appear to be of a different design than those suggested in the Rotchev House and the Kuskov House.

If you have any other questions please do not hesitate to let me know. My notes are poorly organized but I often find answers I'd forgotten.

Note that all the timbers used in constructing an Orthodox Cross are of the same equilateral dimensions (3" x 3", or 4" x 4", etc.) the cross arms did not rise above the level of the center post.

Well, I must get this off and done before the mail truck arrives.

Good luck and best regards,

John C. McKernan

Ps. Rev Vladimir G. Derrubin
3457 Ross Dr.
Palo Alto, Ca. 94302.

I do not have his phone number.

21001 N. Coast Highway
Jenner, Ca. 95450

April 13, 1985

Mr. David Rickman,
12 Rayfield Road
Westport, Ct. 06880

Dear Dave;

I have just come upon notes I made after an interview with Mr. Carlos A. Call. He specifically mentioned the fact that the "Tool Shed" was about two feet wider than the floor of the "Fur barn" and that the roof of the "Tool shed" was about two feet higher than the joining "Fur barn roof."

My drawing is a tracing of the lines on an old photograph cc; 1880, showing both the Tools shed and the Fur barn. It clearly indicates that the barn walls were boarded up with vertical siding. My suspicion is that this was a "Ranch Period" feature. There is evidence that the front and east side of the Rochev House was also boarded over, in the Ranch period and Hotel times. We saw an original log building about the size of this fur barn in Kodiak, Alaska, which had been boarded over since Russian days.

The window framing, door framing and porch construction should follow the details shown in the Rochev House. The R.A.M. furnished each outpost with a technical library dictating how all buildings should be built, whether in Siberia, Alaska or California. The builders were obliged to follow these directions.

There are several drawings by siding scientists and artists in the 1812-1841 period. All of them indicate that all the buildings inside the stockade had hip roofs. I have never heard or seen descriptions of the doors or windows on the west side of either of these buildings. Note that the windows on the east side of the buildings are almost at the level of the second floor and in fact may extend down into the lower floor. There may have been no windows on the first floor walls. Well, enough confusion and contradictory information for now. I'm sorry my notes are so disorganized and incomplete.

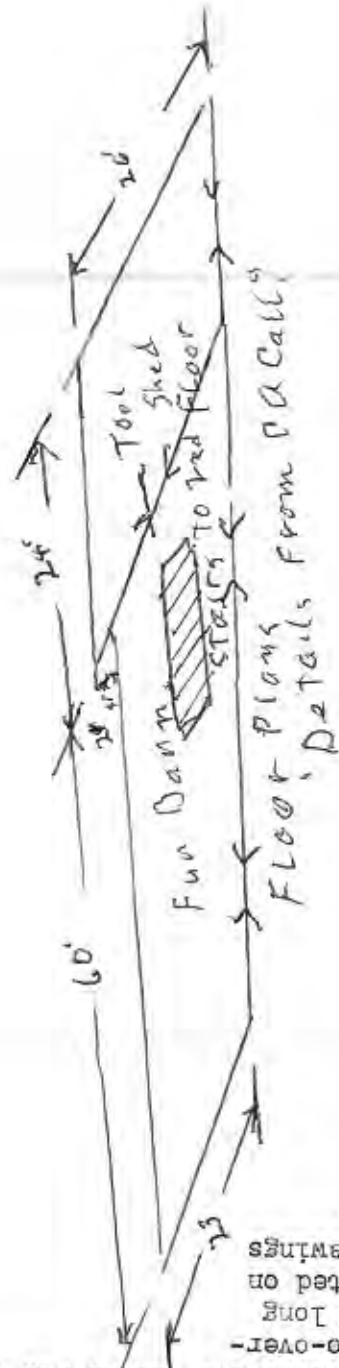
With best regards,

enc; Drawing of "Fur barn"
with hip roof.

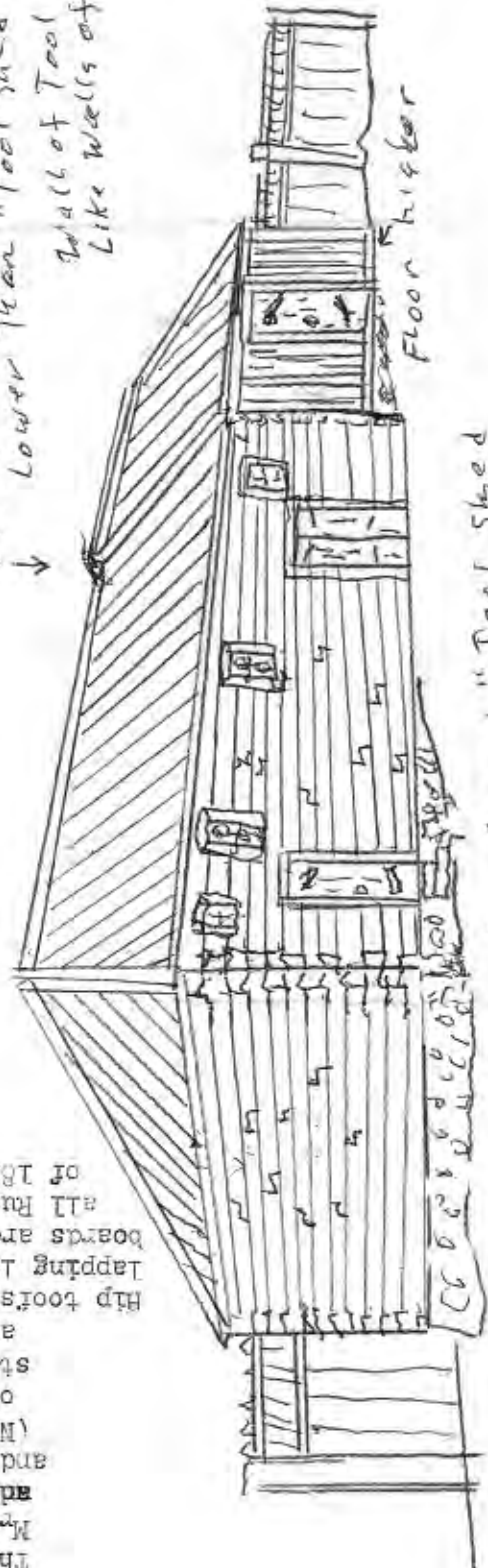
John C. McKenzie

John C. McKenzie

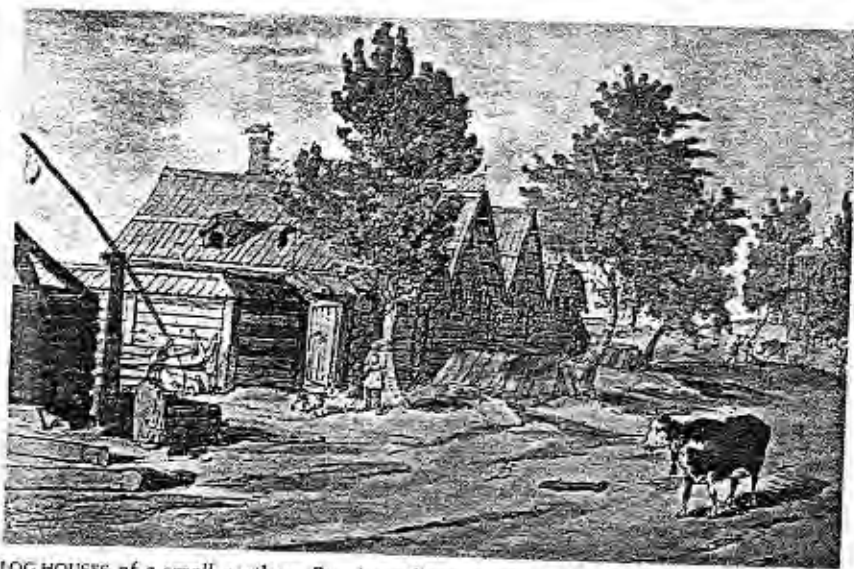
The "Fur Barn" and "Tool Shed".
 Mr. Carlos A. Call told me that the Tool shed
 adds higher roof and a two foot wider and
 and deeper floor than the Fur Barn.
 (Note the floor plan.) He also said that
 one of his younger sisters fell down the interior
 stairway and broke her arm. Interior stairs
 are in the Ruskov House and blockhouses.
 Hip roofs with two-over-
 lapping layers of long
 boards are indicated on
 all Russian drawings
 of 1812-1841.



note "Fur Barn" roof slightly
 Lower than "Tool Shed" Roof,
 Wall of Tool Shed
 Like Walls of Church



The "Fur Barn" and "Tool Shed"
 with Traditional Hip Roofs.
 Based on proportions copied
 from an old photograph, I have not found
 those details.



LOG HOUSES of a small northern Russian village stand by the side of a rough, tree-lined road. At the left, a peasant woman uses a sweep to draw a bucket of water from a well.

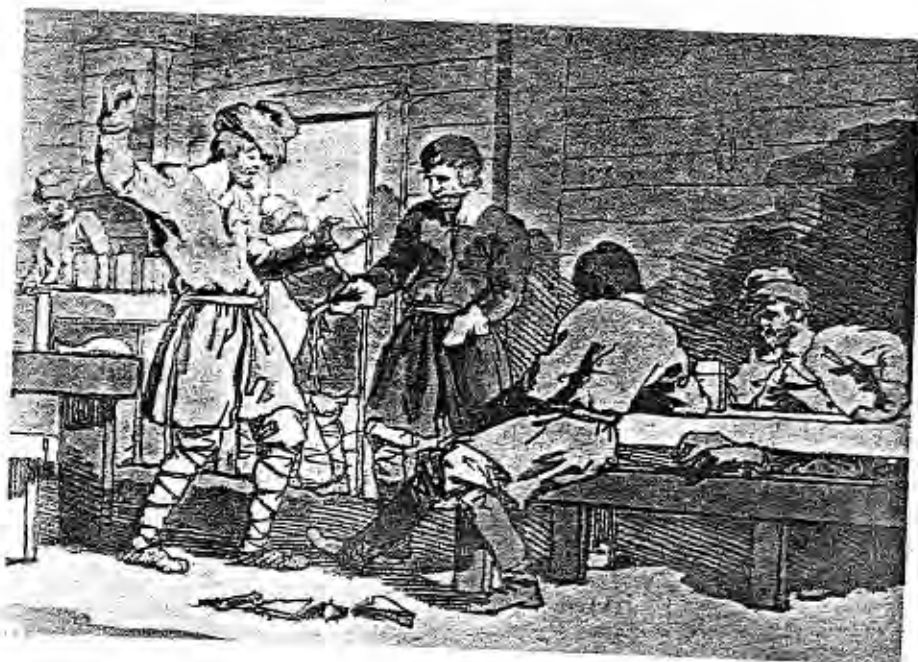


TILLING THE SOIL, a peasant breaks the earth with a primitive plow. Partly because of such crude tools, most Russian fields produced low yields.

THE SIMPLE LIFE OF A VILLAGE

Sophisticated European travelers were astonished and repelled by the harsh life of the Russian villages. Such communities consisted of anywhere from a dozen to several hundred wooden houses clustered along a dirt or wooden street adjacent to a stream. In the north the village houses were made of logs insulated with moss; in the tree-scarce southern steppes they were generally made of clay and mud. A whole family lived, worked, ate and slept in a single room; often there was no chimney, and the smoke had to escape through shutters that covered the windows.

For entertainment the people visited one another, drank, and sang melancholy songs. Travelers were appalled by the amount of drinking that went on—especially when they had to join in. One Englishman warily commented that the Russians seemed to feel that getting drunk on holidays showed respect to the saints—and, he said, there were many holidays.



HIGH SPIRITS prevail among revelers at a local village tavern. The drinks usually sold were *koass* (made of fermented bread), beer and wine.

From George Tuckwell's

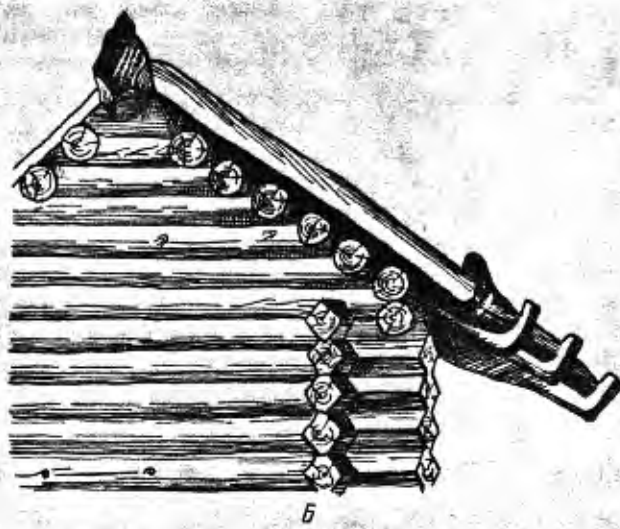
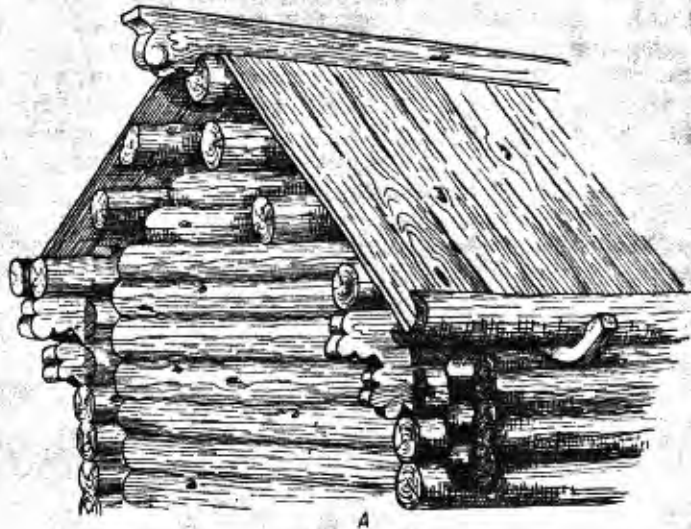
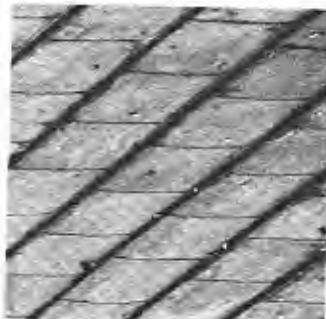


Рис. 1. Конструкция крыши (с. Альбятуй).
 А — фигурный охлуень и разные кронштейны; В — кроны (курны) и желоб-водосток.

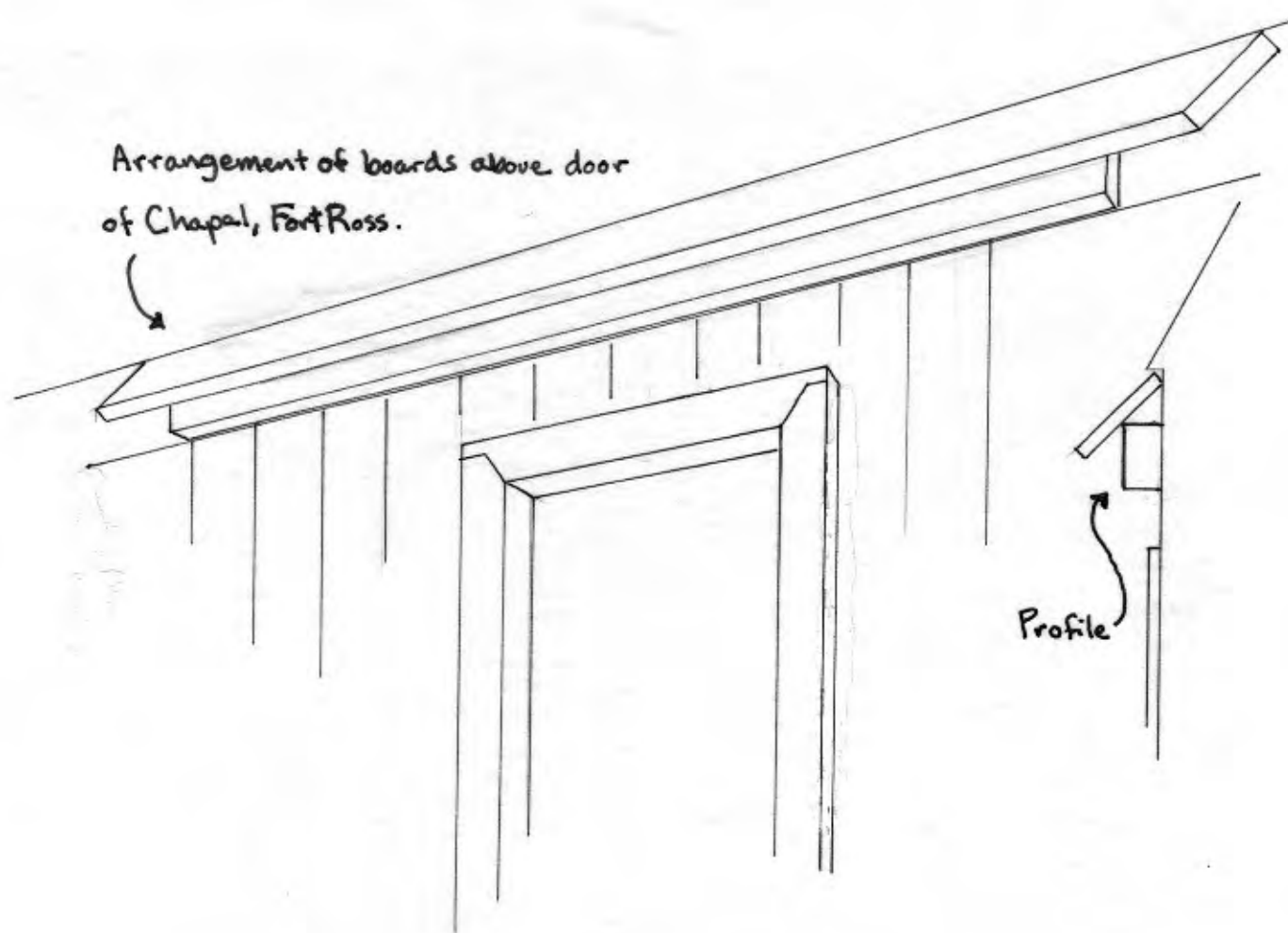
A standing seam metal roof, another good investment in roof cladding. Maine, nineteenth century.

Fig. 58



* Note widely-spaced ridges (standing seams) running perpendicular to ridge of roof. Also, rectangular plates which, here, are staggered.

Arrangement of boards above door
of Chapel, Fort Ross.



This reconstructed gutter is based on one at Old
Sturbridge Village, circa 1835. Braces of wrought
iron, though wood possible.

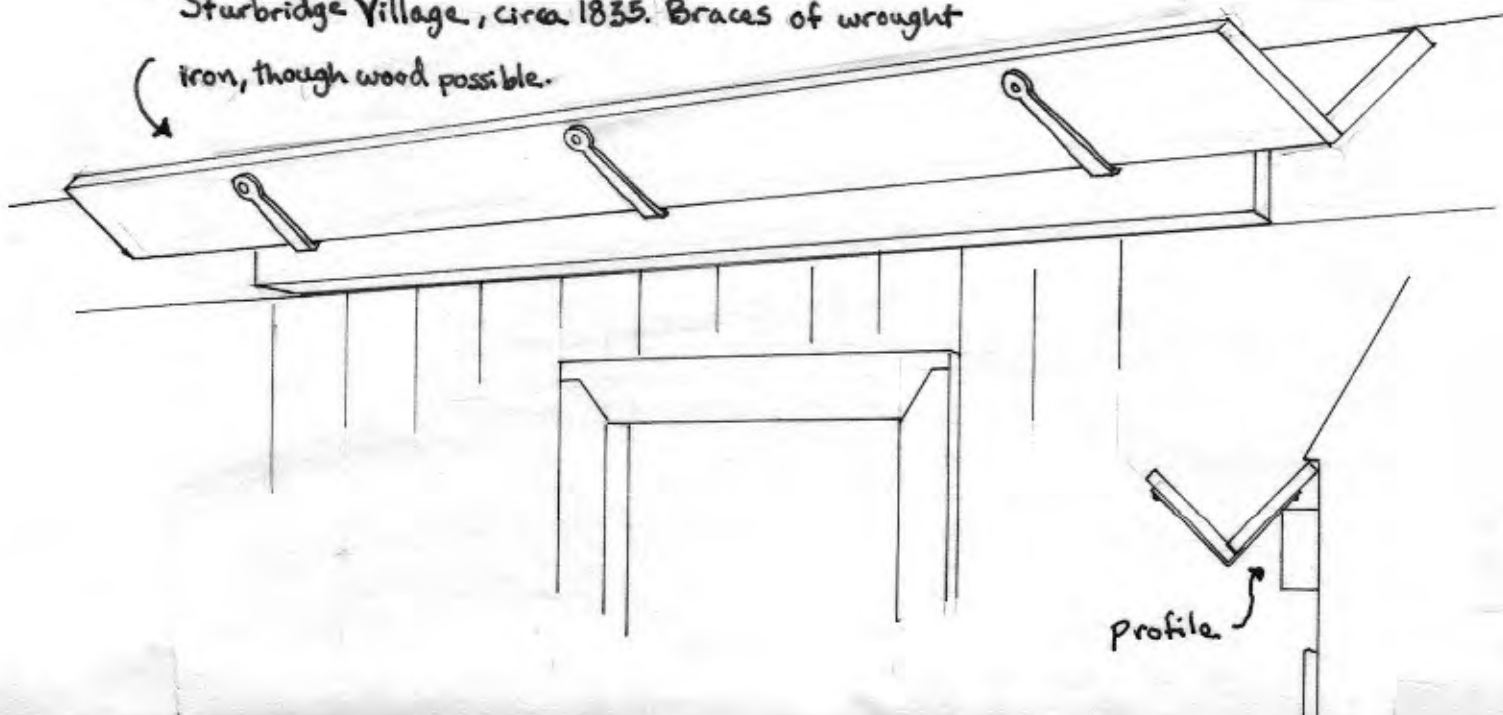
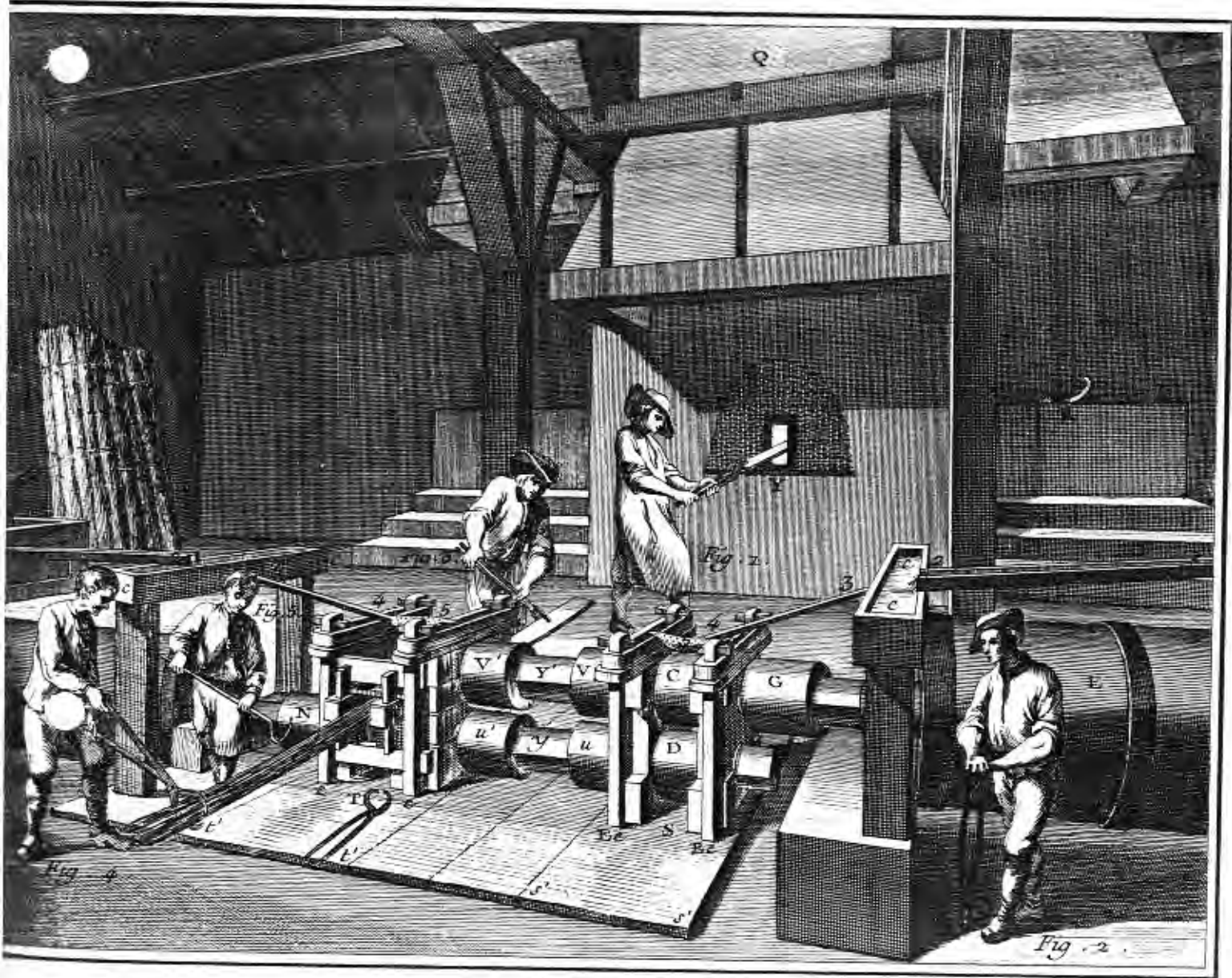


Plate 99 Wrought Iron V



Rolling and Slitting Mill, 1751

Vol. IV, Forges, 5^e Section, Pl. III.

Denis Diderot
 A Diderot Pictorial Encyclo-
 pedia of Trades and Industry
 Ed. Chas. C. Gillespie, 2 vols.,
 vol. I (N.Y., Dover Inc., 1959)
 * Orig. published in 1751.

Diderot, 1791

Plate 148

Tinning II *Seen here, hammering
and cutting plates.

By 1800, rolled
plates were common.

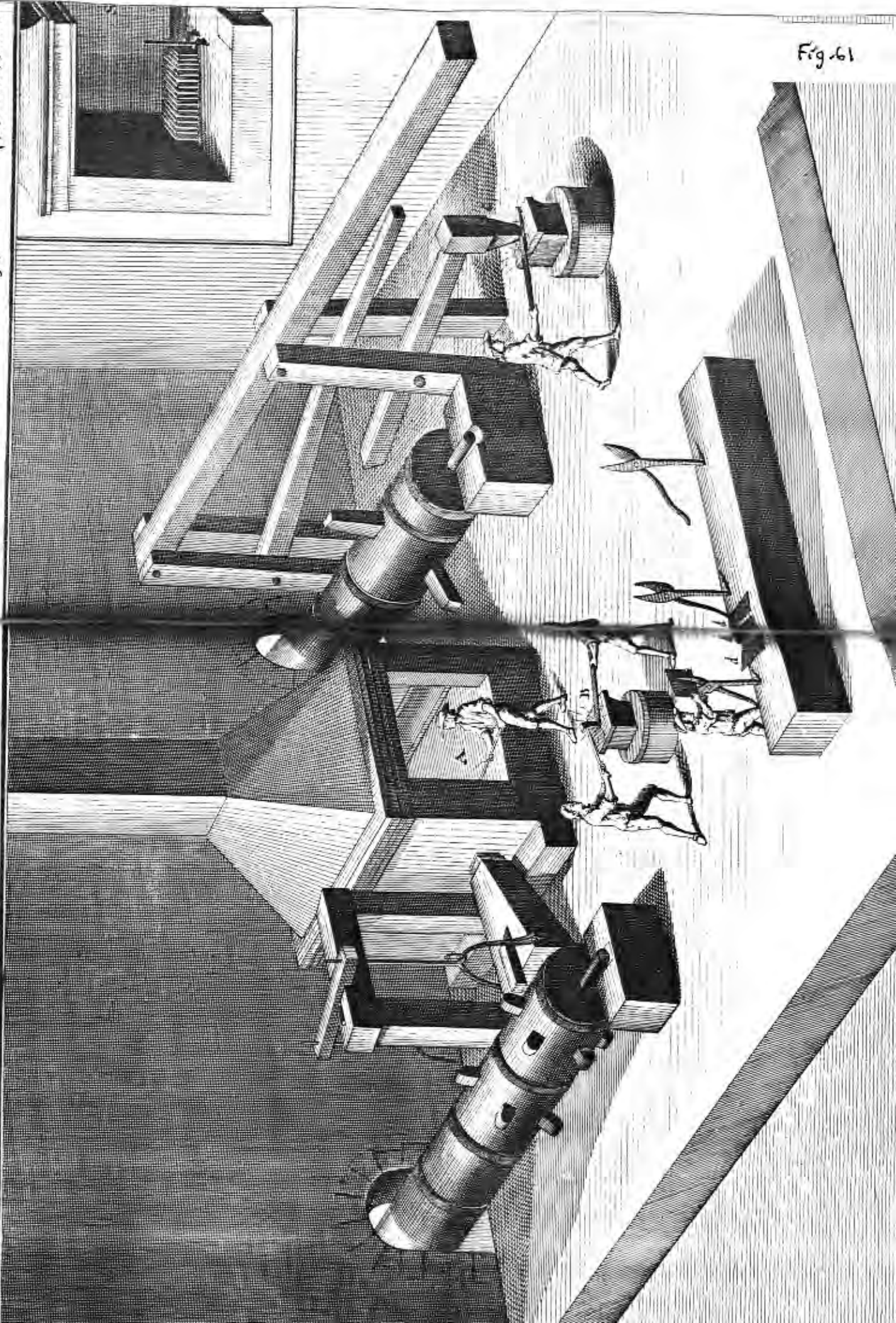
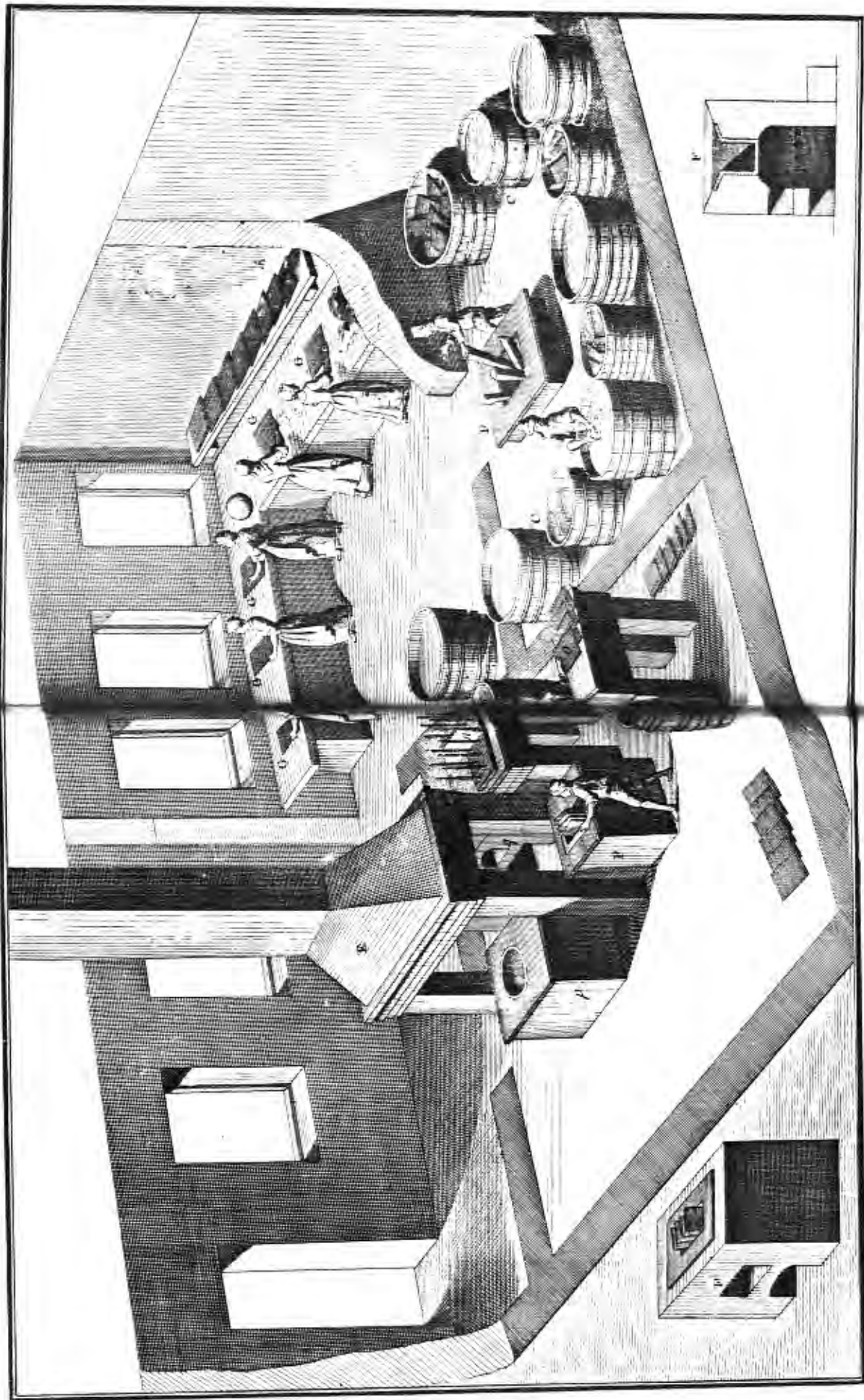


Fig. 61



Vol. VI, Métallurgie, Fer Blanc, Pl. II.

Fig. 62

Fig. 63



* Note widely spaced ridges (standing seams) running perpendicular to the ridge of the roof.

The ecclesiastical Kremlin of Rostov, built on the order of the Metropolitan Jonas Syssoevich (1652-1691) when this city was at the peak of its prosperity. Though dating from over a century later than the Moscow Kremlin, its thick walls and many towers reflect the archaic style.

Joel Carmichael
An Illustrated History of Russia (NY, Reynal & Co., n.d.).

77

Obolensky, 1979

* Carts in use in the Urals, 1867.

Fig. 64

334





Harcourt Farnsworth & Vladimir Ivanov Early Russian Architecture (N.Y. G.P. Putnam, 1975)

Pskov, Saint Nicholas Gate-Church, 1565

*Compare standing seam metal roof,
(here with plates laid on in parallel
rows), with wooden plank roof
on left.

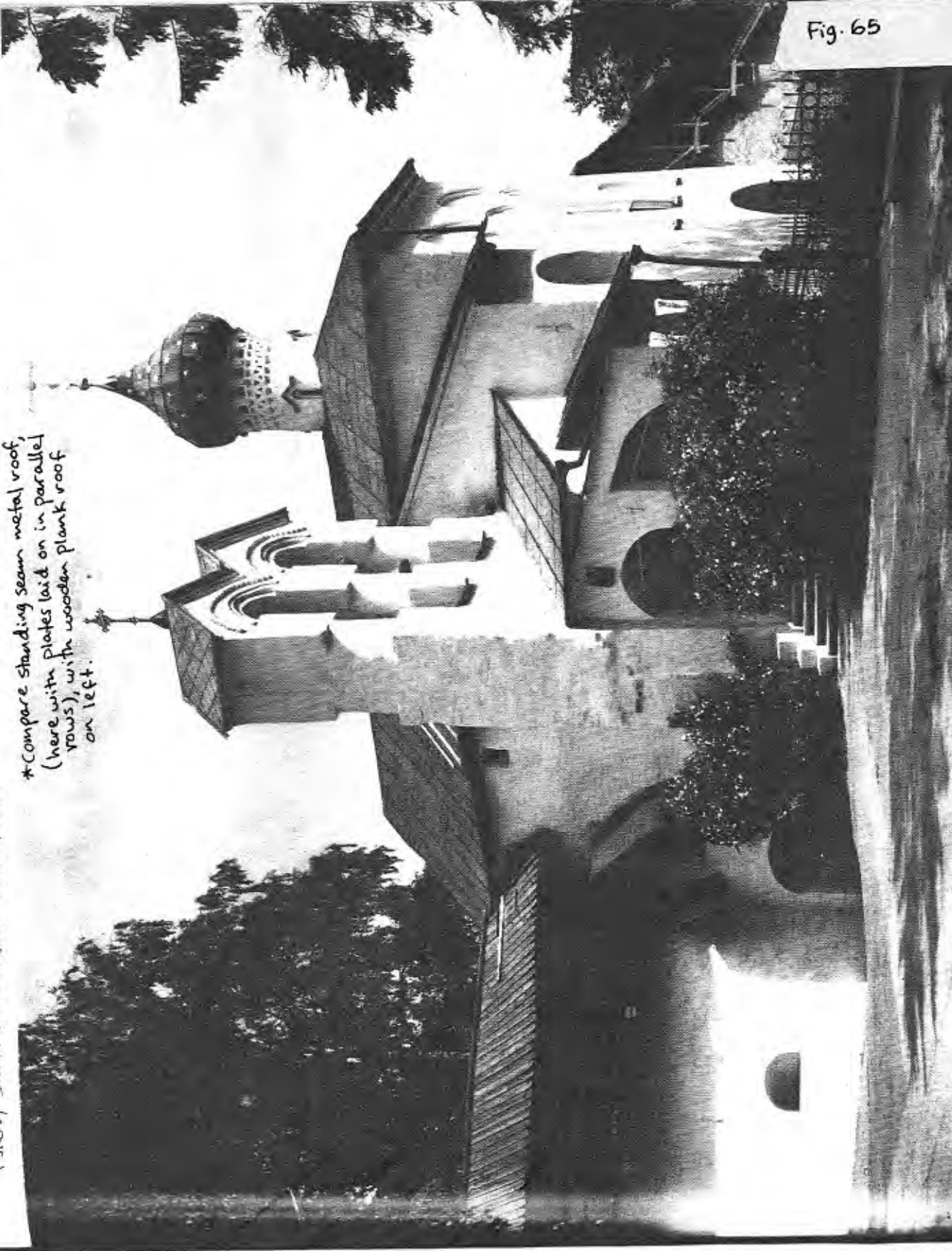
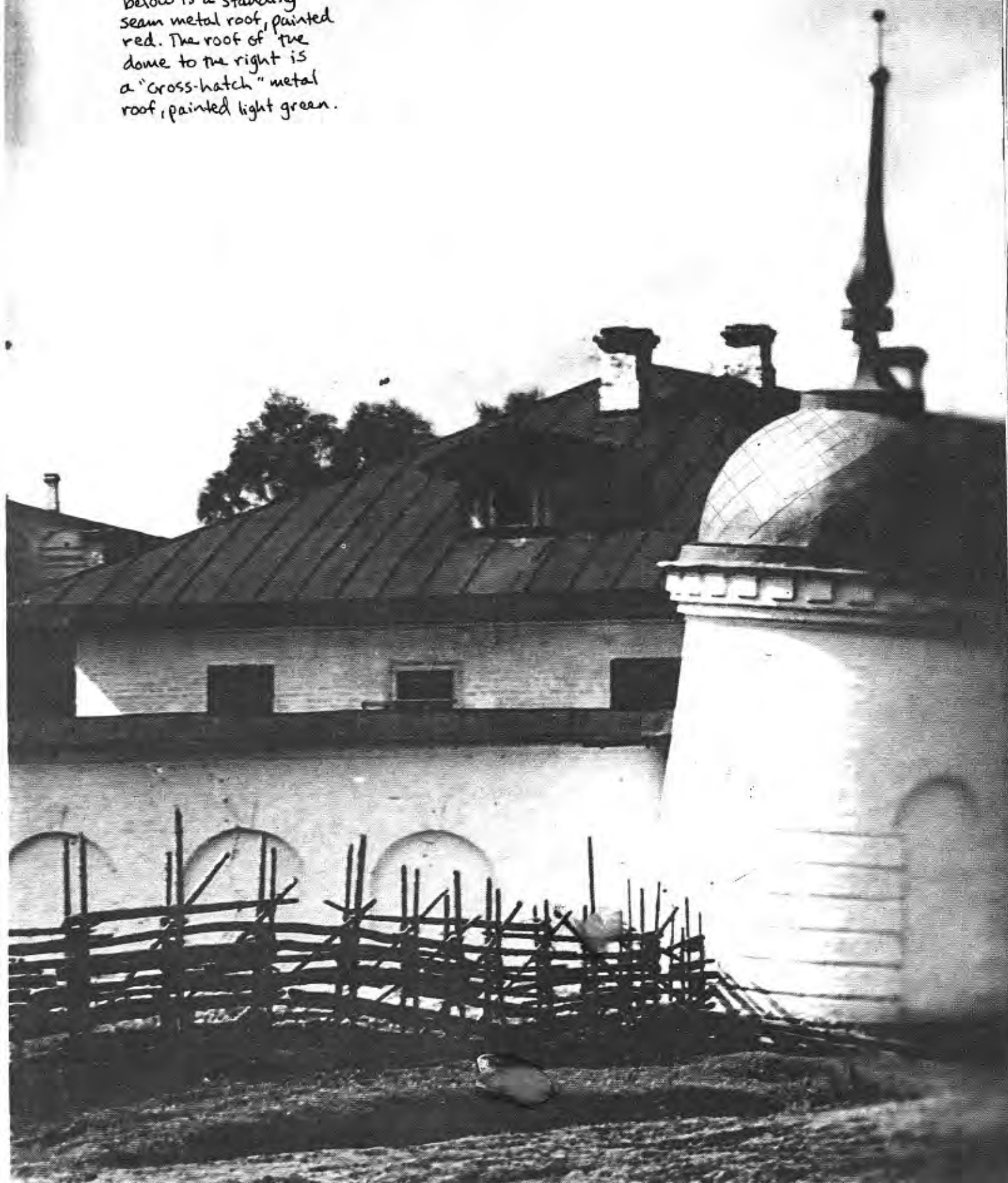


Fig. 65

Allhouse, 1980

* The principal church
of the Goritskii
Monastery. The
roof of the building
below is a standing
seam metal roof, painted
red. The roof of the
dome to the right is
a "cross-hatch" metal
roof, painted light green.



Church of Peter the Metropolitan, Moscow 1694

Fig. 67

Faensen and Ivanov, 1975
*Note the soldered metal
roofs of the domes and
the "cross-hatch" metal
roofs covering the vaults.



Standing seam metal roof
with plates laid on in
parallel rows.



Stróganov Palace and Police Bridge, on the Nevsky Prospect
and Moika Canal, St. Petersburg. B. Patersen, 1799.

In the Russian Style

Jaqueline Cassis, ed.

(N.Y. Metropolitan Museum, 1976)

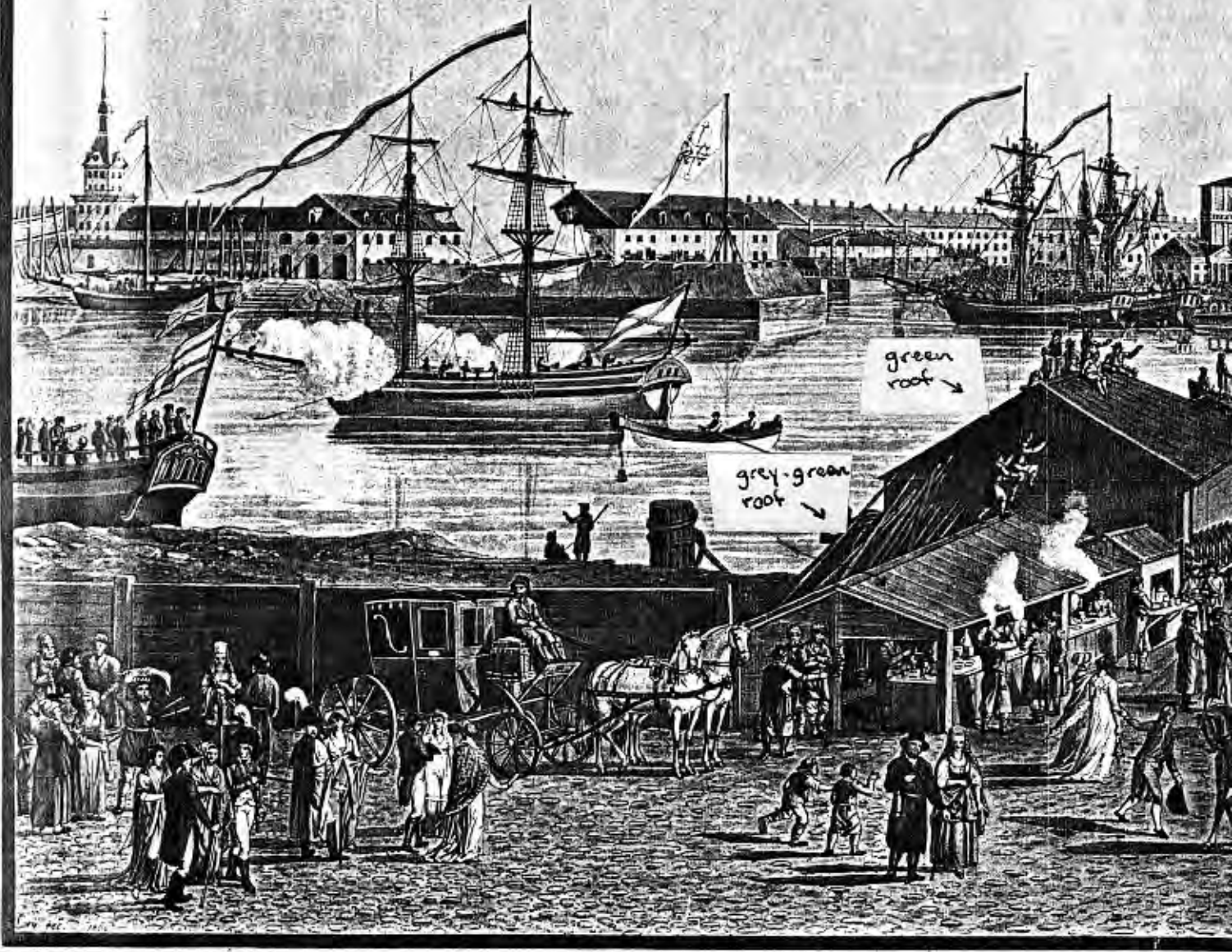
Westport

A really extraordinary idea, to put the capital of Russia at the world's end! though Moscow were not cold enough, we had to be given Petersburg! A wild wasteland that separates Mother Moscow from her little son! The air is with fog and the wan, grey-green earth bears nothing except charred tree-stumps and hummocks of grass... The only consolation is the dead-straight along which the singing, rattling troikas carry one at lightning speed. And what a difference, what a tremendous difference, between the two towns!

Even today Moscow is still the bearded Russian, while Petersburg is a polished European. Old Moscow spreads itself out and lolls at ease, whereas Petersburg, the fop, stands at attention, fingers pressed against trouser-seams! Moscow is surrounded on all sides—the Neva, the Gulf of Finland, the canals. Ample opportunity for self-admiration... Petersburg is in perpetual motion, from cellar to roof. At midnight it begins to bake the French rolls which will be devoured next morning by all the different nationalities that make up its population, and one or another of its yellow eyes is always blinking through the darkness. Whereas Moscow sleeps at night and sets out at daybreak, crossing itself and bowing to all four points of the compass, to eat its modest breakfast in the market.

* Hundredth Anniversary of
Founding of St. Petersburg,
1803. Engraving, 1804.

Joel Carmichael
An Illustrated
History of Russia
(N. Y., Reynold & Co., n.d.)



*Vue de la fête solennelle à S^t. Petersbourg au
jour de l'Anniversaire du siècle de la fondation de cette ville à l'honneur de son fondateur Pierre*

* Note the sentry box painted with black and white stripes. It has a standing seam metal roof, painted red. The food stall in the right foreground has a red metal roof as well. On the left is another food stall with a green metal roof. The boat house behind it has one as well.



Empereur Alexandre I. le 12. Mai 1803.

photographs by Fenton, taken in the autumn of 1852, of the Kremlin as seen from the Moskva, the gilded cupolas of the cathedrals and a row of houses facing the monastery of the wooden house in the left foreground is a *traktir*, or refreshment establishments were of various kinds, the grander serving

caviar, sturgeon and other delicacies, while the more humble provided vast quantities of weak tea, black bread and salted cucumber.

Unpaved streets, like the one shown here, were still to be encountered at the beginning of this century.

* Moscow, 1852

A close inspection of this photo reveals the use of standing-seam metal roofs not only within the Kremlin walls, but also on the humbler timber-built structures without. I have marked the roofs I believe are metal with a star. ★ They are distinguished by widely spaced vertical seams quite different in appearance from the other wooden plank roofs. Darker roofs may also be metal. Also of interest is the cylindrical flue on one roof, which is very likely a metal pipe.



Liquids

CA 1817 - 32 (±)

Description	No. of Ref.	Quantity
<u>Intoxicants</u>		
Rum	7	222 gal., 1/8, 240 vedros
Brandy	5	gals.
Gin	2	17 cases/1/8
White wine	2	2 gal.
Cognac	1	1/3 / 133 gals.
Rum, cognac, gin, arak	1	911 vedros
<u>Misc.</u>		
Molasses	1	1 #
Treacle	8	5 gal/9-1/2 lbs/774
Vinegar, general	4	3 gal / 35-1/4 vedros
Vinegar, cider	1	1/8
Vinegar, wine	1	1/8
Coconut oil	2	39 barrels/30
Olive oil	1	23
Resin	1	barrel
Resin and pitch	2	barrels
Tar and pitch	1	220 barrels
Tar	1	17 barrels
Turpentine	2	60 liters
Olive/sweet oil, Bottles	2	9
<u>Raw Goods</u>		
<u>Metals</u>		
Iron, general	7	quintal / 7,780 puds/CWT
Iron, treated	4	29 lbs/2 quintals / 7 arrobas
Iron, platinated	4	340 arrobas/29 qq/
Iron, semi-platinated	1	- -
Iron, sheets	1	265 puds 9,540 lbs
Copper, general	4	7 arrobas 6552 lbs
Copper, sheet	1	344 puds 11,384 lbs
Steel, general	5	quintal
Tin, general	1	96 puds
Tin, sheets	1	1,100
<u>Tobacco</u>		
Tobacco, Virginia	16	40 puds/4 arrobas/quir
Tobacco, Circassian	3	19-4/5 lbs/288 puds

1 pud = 36 lbs

quintal = 112 lbs

Yig

1 pud = 36 lbs

Beiträge
zur Kenntniss
des Russischen Reiches
und der
angrenzenden Länder Asiens.

Auf Kosten der Kaiserl. Akademie der Wissenschaften

herausgegeben

von

K. E. v. Baer und Gr. v. Helmersen.

Erstes Bändchen.

*Wrangell's Nachrichten über die Russischen Besitzungen
an der Nordwestküste von Amerika.*

St. Petersburg, 1839.

Im Verlage der Kaiserlichen Akademie der Wissenschaften.

Statistische und ethnographische Nachrichten
über
die Russischen Besitzungen
an der

Nordwestküste von Amerika

Gesammelt

von dem ehemaligen Oberverwalter dieser Besitzungen,

Contre-Admiral v. Wrangell.
Ferdinand Petrovich Wrangell.

Auf Kosten der Kaiserl. Akademie der Wissenschaften

herausgegeben

und mit den Berechnungen aus Wrangell's Witterungsbeobachtungen
und andern Zusätzen vermehrt

von

K. E. v. Baer.

CALIFORNIA

STATE LIBRARY

St. Petersburg, 1839.

Buchdruckerei der Kaiserlichen Akademie der Wissenschaften.

zerstört wurde*). Im Jahre 1804 nahm Baranow den Koljuschen ihre eigne Verschanzung ab, und gründete in deren Nähe die Faktorei Neu-Archangelsk, an derselben Stelle, wo sie noch heutiges Tages steht, unter 57° 2' 50" N. Br. und 224° 42' O. L. von Greenwich.

§ 5. Ursachen der Besitznahme des Sitcha-Meerbusens.

In dem Sitcha-Meerbusen und den benachbarten Meerengen hielten sich zu jener Zeit die See-Ottern in grosser Menge auf; der Fang dieser Thiere war der Hauptbeweggrund der Besitznahme des Meerbusens. Allein auch ausser der reichen Ausbeute, die sich von den See-Ottern erwarten liess, schien die neue Besetzung für die Stiftung einer Haupt-Faktorei sehr bequem und vortheilhaft gelegen. Ein vorzüglicher Hafen, Waldungen, die das herrlichste Bauholz liefern, grosse Höhe der Fluth, Ueberfluss an Fischen, kurz alle nothwendigen Erfordernisse eines guten Hafenortes, Schiffswerftes und einer nicht unbedeutenden Niederlassung, fanden sich bei dem Sitcha-Meerbusen vor, und gewähren noch jetzt Neu-Archangelsk grosse Vorzüge vor allen andern Besitzungen der Kompagnie, obgleich die See-Ottern gänzlich verschwunden sind.

§ 6. Gebäude und Lage dieser Niederlassung.

Die Gebäude sind ohne Ausnahme von Holz, gehören theils der Kompagnie, theils Privatleuten, und sind zu Wohnungen für die Beamten und Arbeitsleute be-

*) Im Jahre 1806 wurde von den Koljuschen auch die Ansiedlung der Kompagnie in Jakutat gänzlich zerstört; sie ist bis auf den heutigen Tag nicht wieder erneuert worden.

stimmt. Zu diesem Behufe sind Quartiere und Kasernen erbaut worden; ferner verschiedene Gebäude für das Hospital, die Schule, das Komptoir, die Packhäuser, die Werkstätte des Hafenortes, ein Arsenal, die Kirche, Badstube u. s. w.

Nearly all the Company buildings were covered with iron.
Fast alle Gebäude der Kompagnie sind mit Eisen gedeckt. Die Ansiedlung ist von einer Seite durch das Meer beschützt, von den andern Seiten umschliesst sie eine hohe Holz-Wand, die an den wichtigsten Punkten Thürme und wohlbediente Batterien trägt. Die Fahrzeuge, liegen der Ansiedlung gegenüber, im Hafen vor Anker; die Anker hängen an Ketten und werden von Fässern gehalten, an welche das in den Hafen eingelaufene Fahrzeug befestigt wird. Alle Fahrzeuge sind mit Kanonen besetzt.

Im Bereiche einer der Küsten-Batterien liegt, gegen Westen, am Meeresufer, ein Koljuschen-Dorf, das bisweilen an 1000 Bewohner zählt, sämmtlich Eingeborne. Gegen Osten, längs dem Ufer ist ein niedriggelegener Landstrich als Kartoffelfeld benutzt worden, sowohl zum Gebrauche der Kompagnie, als auch für Privatleute.

Moräste, Wälder, hohe und sehr steile Berge umschliessen Neu-Archangelsk, in dessen Nähe keine grüne Wiese, kein freundlicher Hain zu sehen ist.

§ 7. Bewohner von Neu-Archangelsk.

Im Jahre 1833 belief sich die Zahl derselben auf 847 Individuen, nämlich:

Der Ober-Direktor (Verwalter der Kompagnie).	} Staats-Offiziere der Kaiserlichen Marine.	} 2
Dessen Gehülfe.		
Der Sekretair des Gouverneurs, ein Civilbeamter .		1
Schiffsbefehlshaber, Oberoffiziere der Kaiserl. Marine.		9

From: Richard Pierce
 "Alaska's Russian Governors:
 Etholen and Tebenkov"
 Alaska Journal vol. 2, no. 2
 Spring 1972

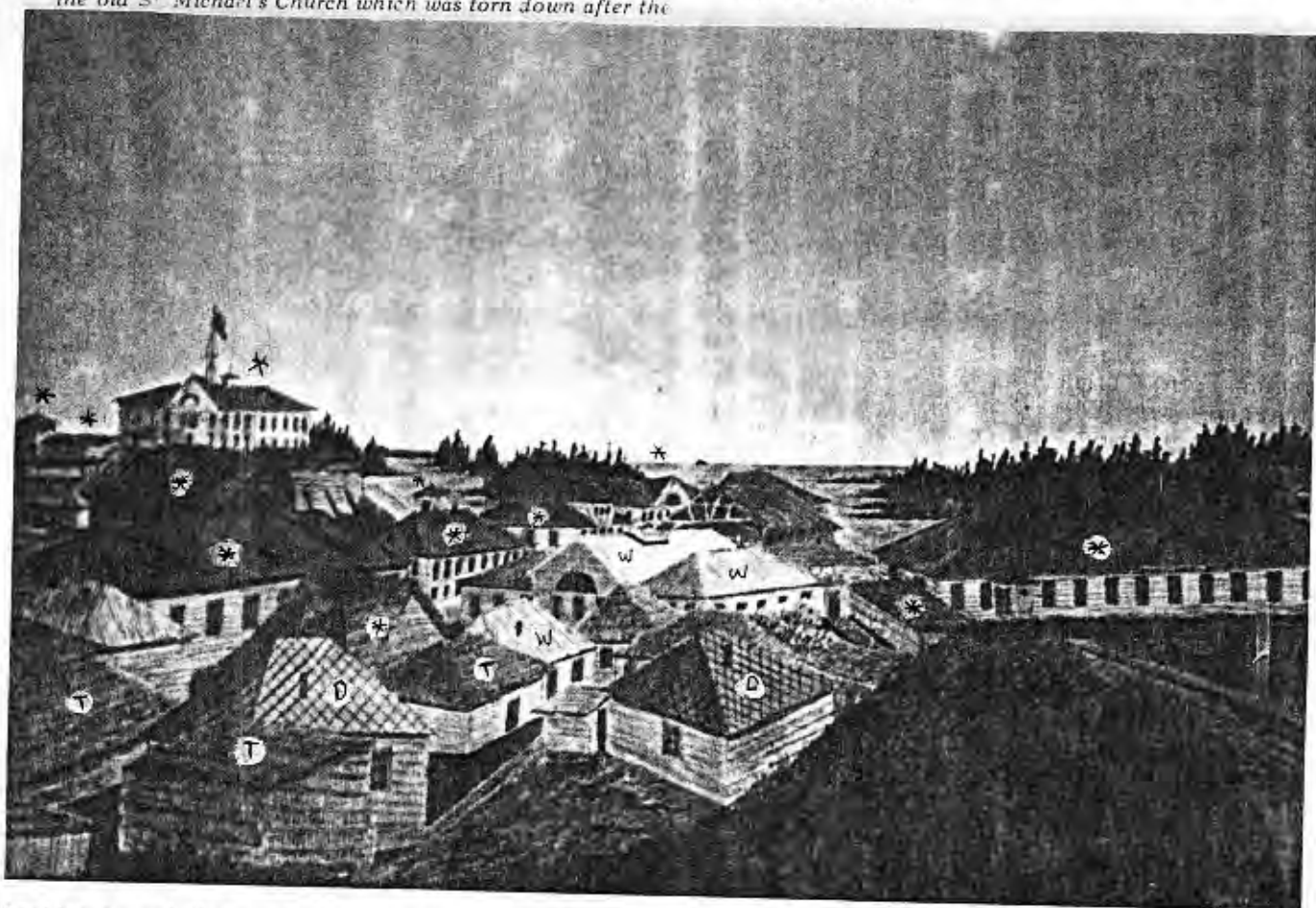
Fig. 74

* Red roofs, probably metal.
 W = Wood
 T = Thatch or perhaps shingle.
 D = Pink roofs, probably metal.



Looking south over a part of the town of Sitka in Etholen's day. The tall red-roofed building at the left, with three fan windows showing, was the Lutheran Church. To the right, the old St. Michael's Church which was torn down after the

Original in possession of the Etholen family, Stockholm.
 completion of St. Michael's Cathedral. The small steamer boat may be the MUR, if so was the first steamer to be built on the Pacific Coast.

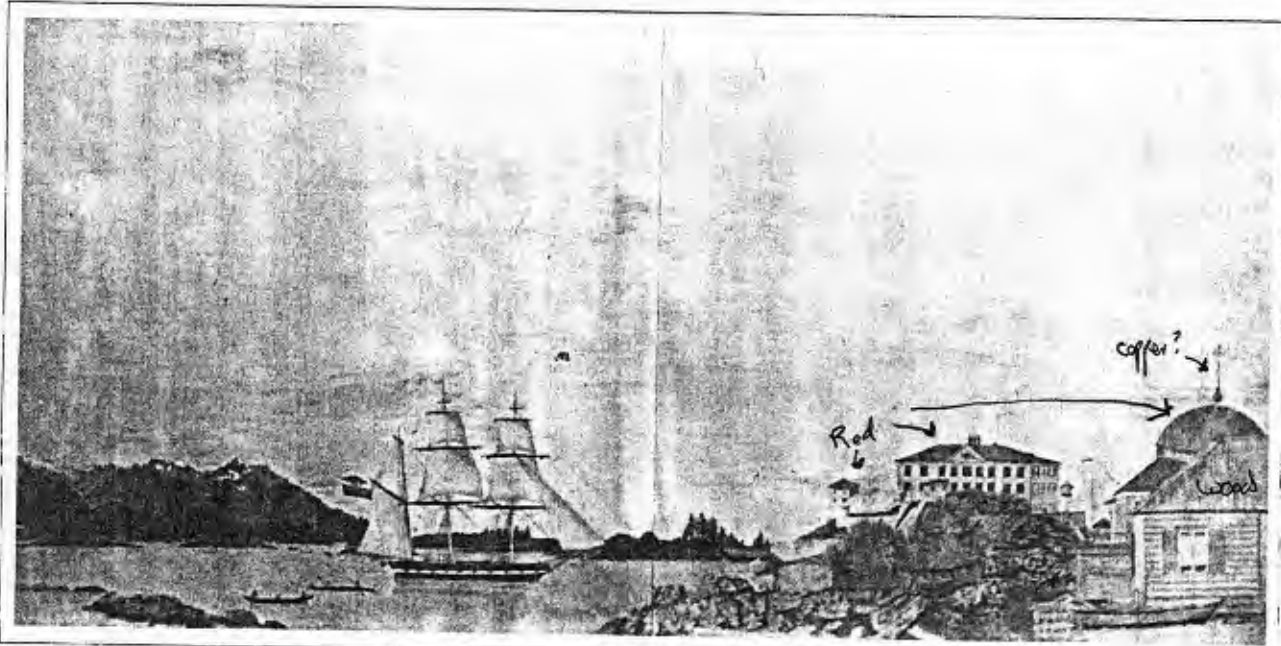


Looking toward the southwest. The Governor's House, which later became known as the Baranof Castle until it burned in 1894, stands prominently against the sky to the left. Below it are several log buildings that survived into the

Original in possession of the Etholen family, Stockholm.
 Twentieth Century. The long building at the right was probably quarters for married officers of the company or the Navy and their families.

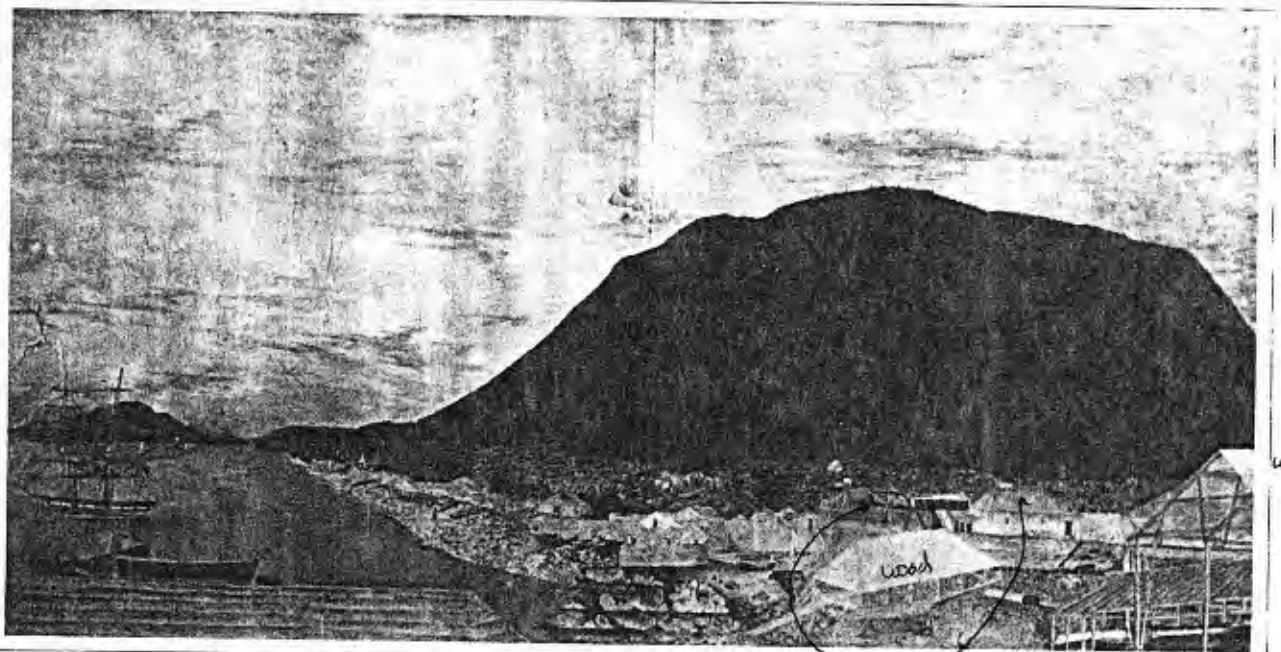
ALASKA'S RUSSIAN GOVERNORS

ROSENBERG, RUDAKOV, VOEVODSKII



Courtesy the Krogius Family

A bark in the outer harbor, plus a Tlingit dugout canoe and an Aleut baidarka. The governor's house shows prominently. The church at the right is probably the old Saint Michael's, torn down when the cathedral was finished.



Courtesy the Krogius Family

The inner harbor at Sitka with a bark and, directly behind the bark, a brig at anchor. At the right are buildings of the shipyard and ship repair shops, with the Indian village beyond.

* prob 1850s

Alaska Journal
Winter, 1973

Fig. 76

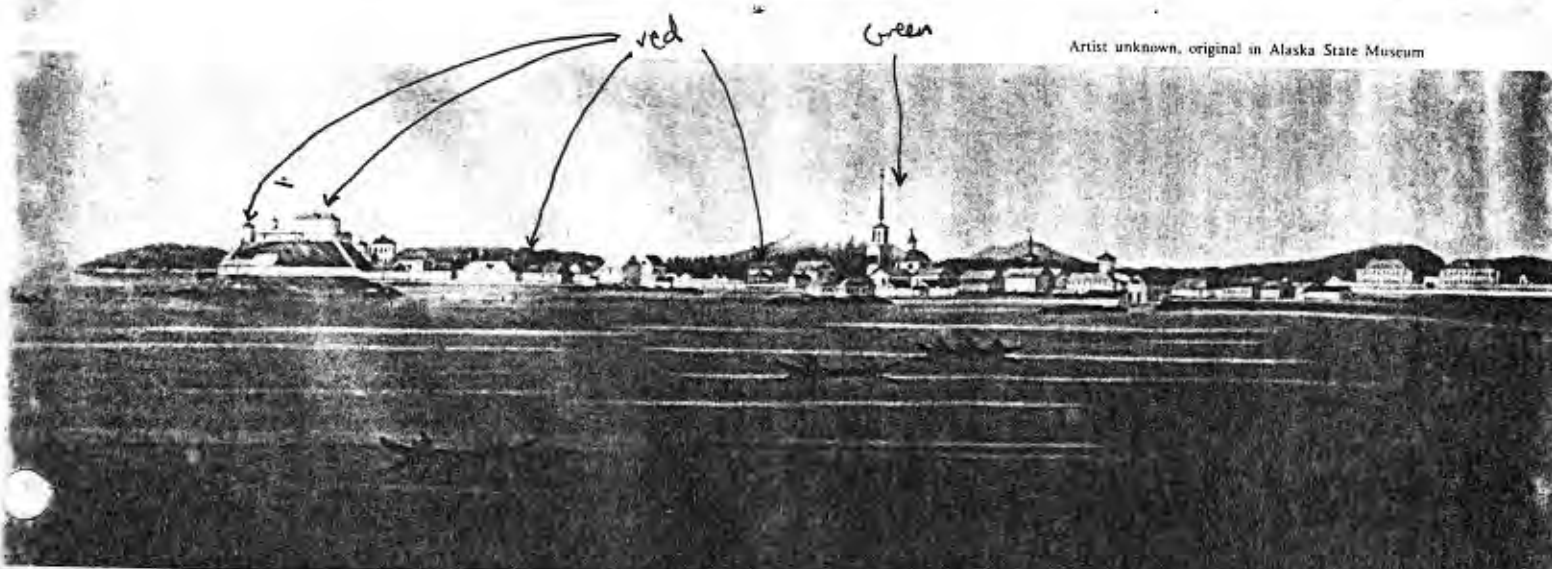


Artist unknown, original in Alaska State Museum

Sitka from the southwest in the 1860's. This series of water color paintings is said to have been done by a Russian naval officer, but his name has been lost. His work is almost photographic in quality, with buildings shown in great detail.

Looking west toward Mount Edgecumbe, with the Governor's House at the extreme left and the Monastery and Hospital at the right.

Fig. 77



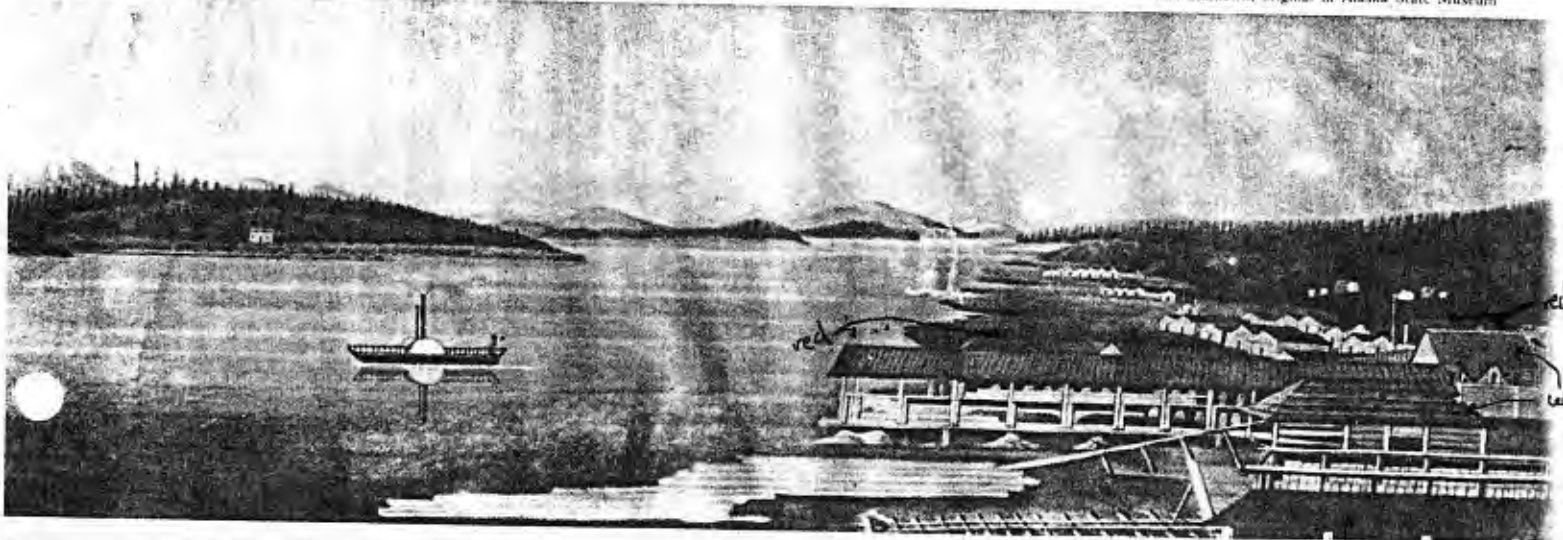
Artist unknown, original in Alaska State Museum

* prob. 1860s.

Looking north from the Governor's House on what is now Castle Hill, with the shipyard and fish saltery in the foreground and the Indian village or Ranche beyond.

Note use of sheet iron roofs, distinguished by red color and broadly-spaced vertical lines (standing seams), in use on boat sheds.

Fig. 78



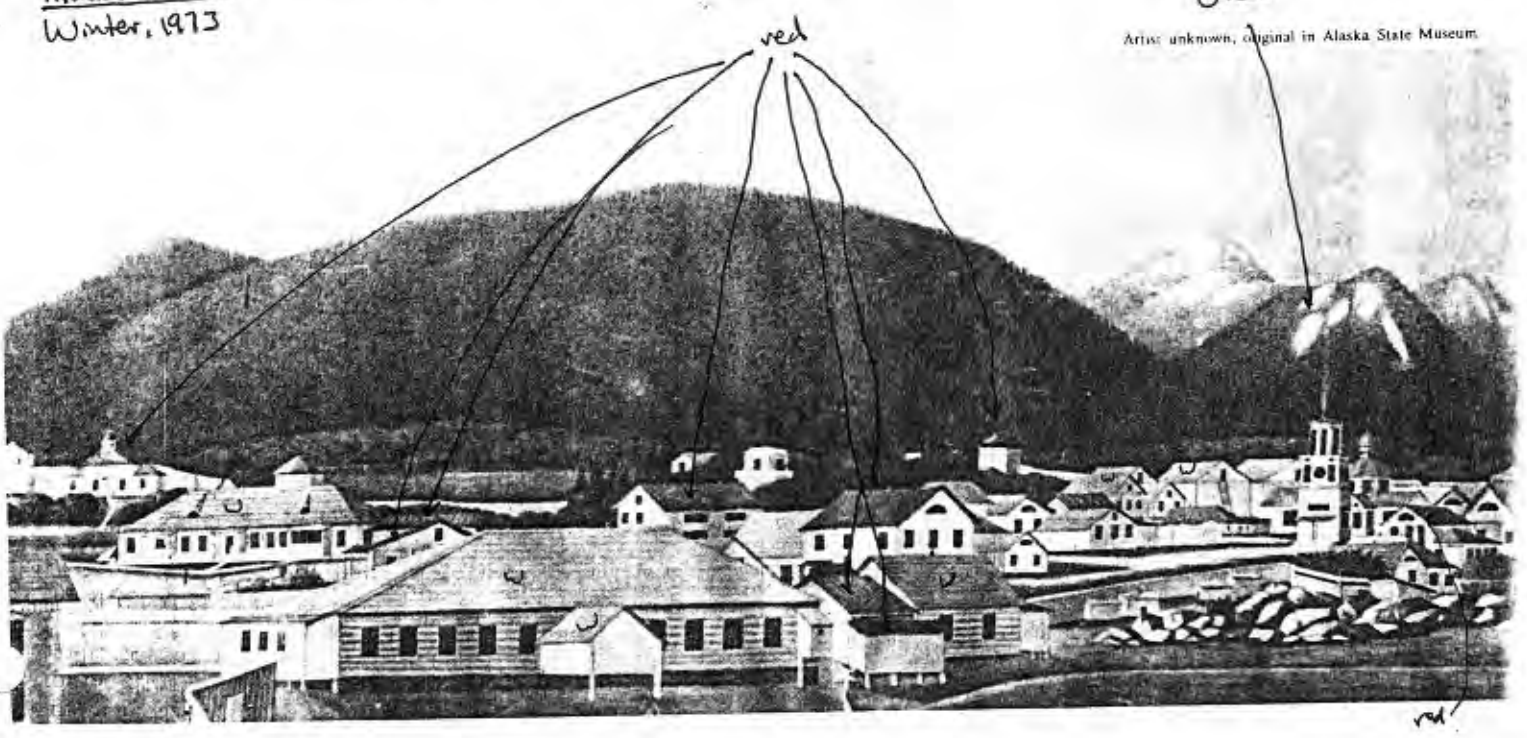
Artist unknown, original in Alaska State Museum

The main part of the town of Sitka, from the Governor's House. At the upper center, the white structure is the Tea Garden. The Lutheran upper right is a blockhouse and the Resurrection or Indian Church. In Church is shown just to the right of St. Michael's Cathedral probably 1860s. Fig. 79

Alaska Journal
Winter, 1973

Green

Artist: unknown, original in Alaska State Museum



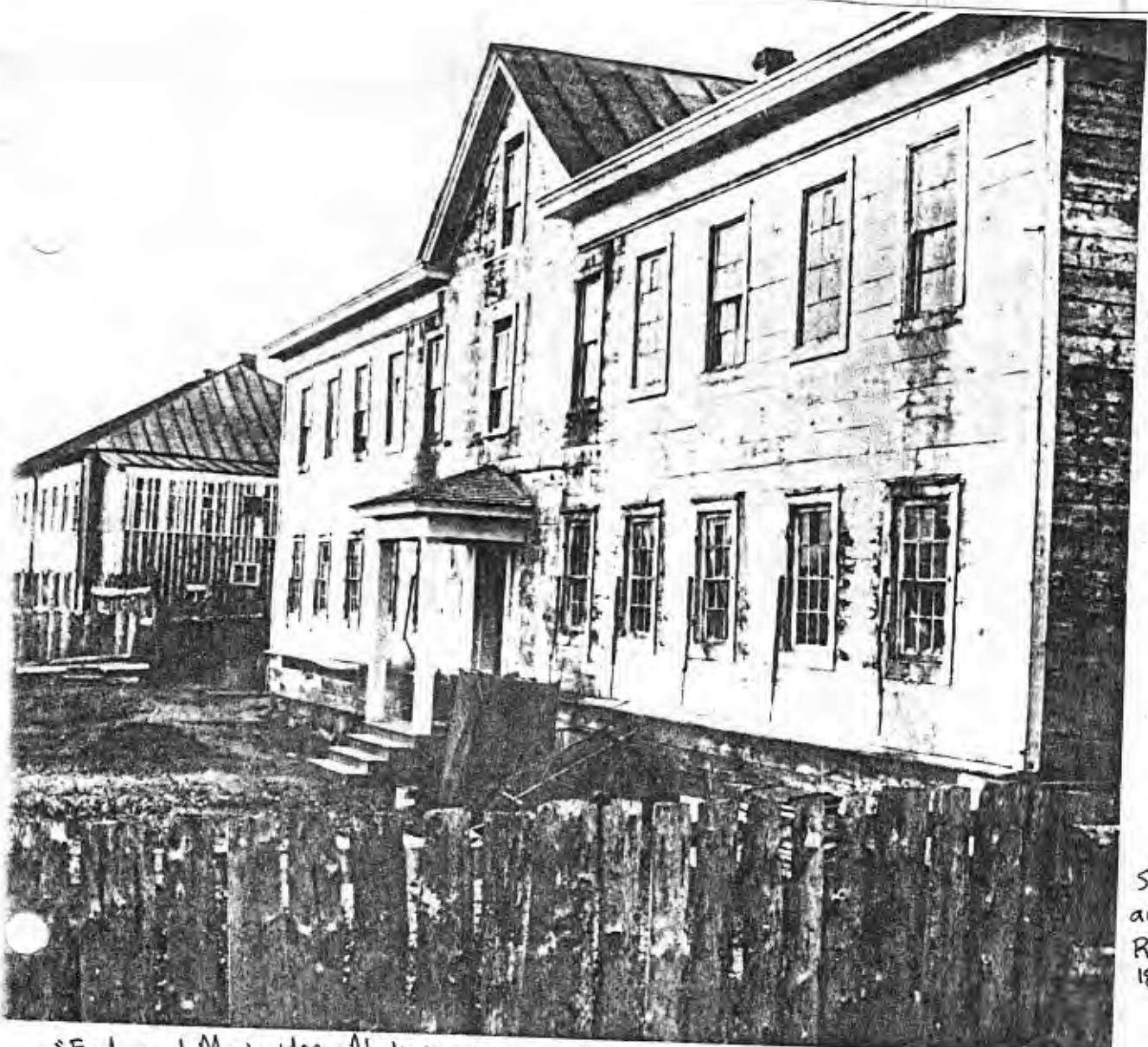
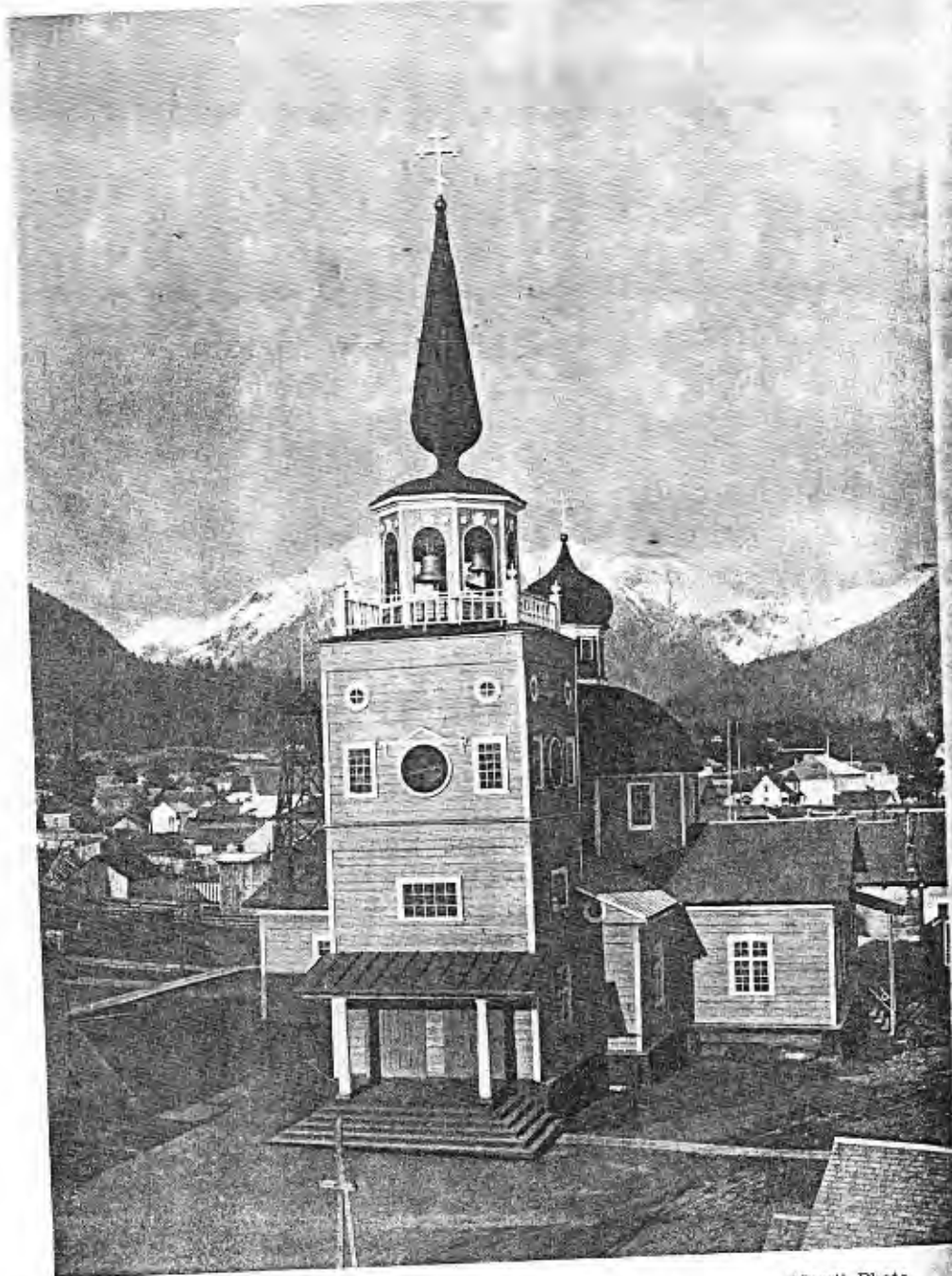


Fig. 80

Both buildings have standing-seam metal roofs.

Sittka, Hospital and Priest's Residence 1868.

"Edward M. Mylbridge, Alaska's First Photographer" Alaska Journal Autumn, 1977



Merrill Photo

ST. MICHAEL'S CATHEDRAL, SITKA

Erected in 1848, on the site of the first Sitka church, which was built in 1811, this is one of the most picturesque and historic religious structures on the Pacific Coast.

Photo from early 20th century. The standing-seam metal roof is evident on the porch. Both the belltower and cupola are also covered in soldered metal. Paintings from the 1860s (figs. 76, 77 and 79) show the roofs painted light green.

Siberia; let us not overlook what he has done by him—it seems the work of a man working continuously. A

From early youth, Veniamin was an idler.

THE CLOCK

An illuminating incident occurred during his student days. Bishop Ignaty wished to build a tower clock on the cathedral, and for this purpose he employed a mechanic named Klim to construct it. The mechanic was given quarters in the tower to the Bishop's residence, and during the progress, the Bishop noticed that the students quite frequently came to the clock maker at his work. This was idling away a great deal of time. He reported the matter to the Bishop, and upon investigation it was found that the supposed idler was Veniamin, a diligent and serious student in the cathedral school. He also ascertained that Veniamin was the clock maker in filling out his time, and generally made himself useful.

Naturally he was not satisfied with his visits to the tower, and he began to use the benefit of his people. He was still have the cathedral clock tower was constructed by Veniamin.

A year before graduation he was ordained a deacon, and he changed his plan to continue his studies at the Theological Academy at Moscow. Later he was ordained a priest.

In 1823 an order from the Emperor of Moscow was received at Sitka, which required that a priest be sent to the charge of the Unalaska diocese. The diocese was at hand regarding the promyshleniki and these men pictured in the diocese as inhabited by savages. Veniamin made public and voluntary offerings, but there was no response, for in such a wild country do not accept the offers held by the Bishop of Irkutsk. The order remained unanswered, and the diocese was fast becoming unpopulated when one day young Father Veniamin came to his services.

This offer, coming from a priest, puzzled the Bishop, and he asked for a man who stood so high. Upon interrogation, Father Veniamin explained that he had met a man in Alaska, who pictured the

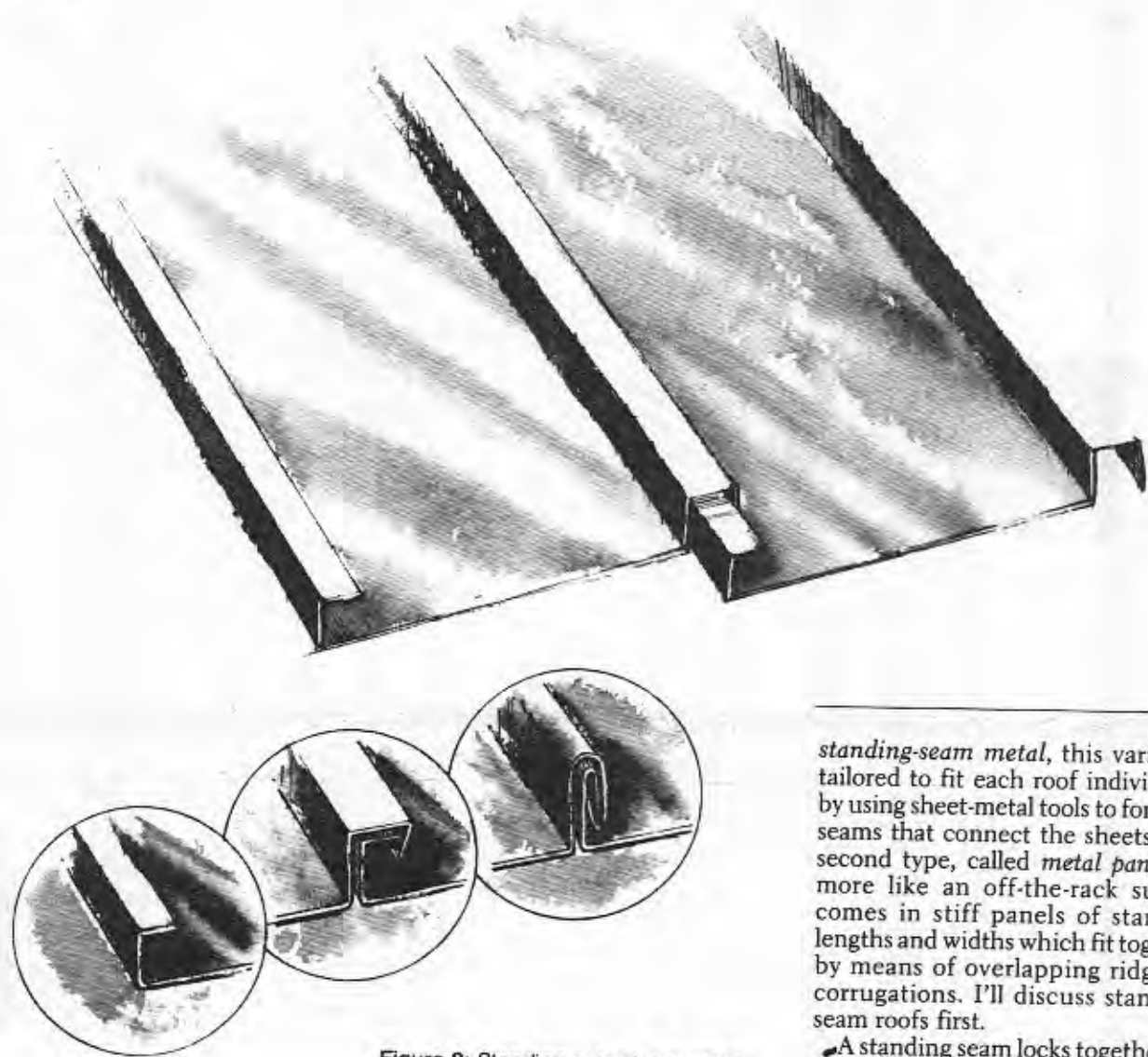


Figure 8: Standing-seam terne metal roofing

standing-seam metal, this variety is tailored to fit each roof individually by using sheet-metal tools to form the seams that connect the sheets. The second type, called *metal panels*, is more like an off-the-rack suit: it comes in stiff panels of standard lengths and widths which fit together by means of overlapping ridges or corrugations. I'll discuss standing-seam roofs first.

• A standing seam locks together the edges of adjoining sheets in tightly crimped vertical folds [Figure 8]. Because rainwater never sits over the seams themselves, running instead along the troughs between them, the possibility of leakage between sheets is virtually nonexistent. There is also little chance of leakage through holes in the sheets; the roofer secures a standing-seam roof to the deck by driving the nails through underlying *cleats* rather than through the surface of the roofing material.

Any metal durable enough to withstand prolonged weathering and malleable enough to take the tight bends required in standing-seam construction can be used for roofing. During the closing decades of the nineteenth century, standing-seam copper roofs were popular—they're still occasionally used—but given the high price of copper today, a much

and \$300 per square. That means that enough slate to cover a modest house is liable to cost \$2,000 or more, but then you'll have a roof that will last. If you have the good fortune to live in a slate-producing area, you may be able to buy slate at a discount by purchasing it directly from the quarry. Quarry owners will often sell slate with defects—such as broken corners or surface irregularities—that don't affect its utility.

Another possibility is finding some used slate, but don't expect to get it for nothing. Even after decades on a roof, slate doesn't necessarily depreciate in value. But if you discover some likely-looking slate on a crumbling outbuilding (in Vermont's slate belt, an hour's drive from where I

live, even woodsheds and chicken houses were often built with slate roofs a hundred years ago), you probably can strike a fair deal with the owner if you do the salvaging yourself. You'll need a *slate ripper* [Figure 7], a tool that enables you to reach up under each course and cut the nails free without damaging the slate. Even then, you can expect to break some slates before you get the hang of it. You can also expect the job to take up a lot of your time. But what's time to a slate roof?

Standing-Seam Metal

There are two general classes of metal roofing. The older, more traditional variety consists of flat, flexible metal sheets. Known as

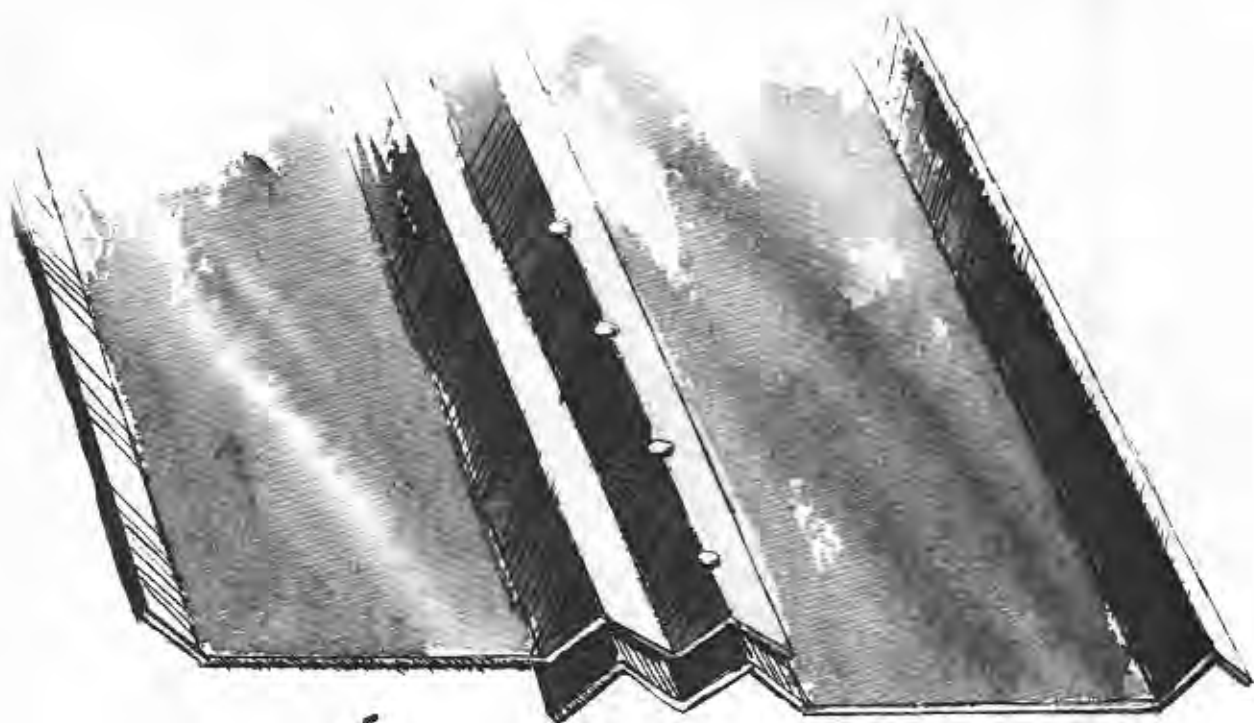


Figure 9: Ridged metal roofing

more practical alternative is a material called *terne metal*.

Terne is an alloy of 20-percent tin and 80-percent lead. Terne-metal roofing is manufactured by taking sheets of copper-bearing steel—the copper is added for increased malleability—and plating them with terne metal in a hot dipping process similar to galvanizing. Several grades and gauges are available. Gauge, or overall thickness, determines the stiffness and dent-resistance of the material. Durability is determined by the “grade” or weight of the weather-resistant terne plating. The longest-lasting roofing—whether 30-, 28-, or 26-gauge—is identified as 40-pound terne, which indicates 40 pounds of plating for each 436 square feet of surface area. Even heavy-duty terne doesn’t weigh much; 26-gauge, 40-pound terne weighs a mere 76 pounds per roofing square. Standing-seam terne is applied over a conventional board or plywood deck, with an underlayment of rosin-sized building paper rather than roofing felt. Terne metal is a good choice for low-sloped roofs (but not lower than a 3-12 slope).

A terne roof does require a certain amount of maintenance. It must be kept painted, or else rust will begin to streak through microscopic chinks

in the lead-and-tin armor. If given a good coat of linseed-oil-based paint every five or ten years (never use tar-based sealants) it can last a long time. Thomas Jefferson’s Monticello has standing-seam terne roofing more than 200 years old.

In addition to being extremely durable, terne also can harmonize with almost any type of architecture. Its clean vertical lines are as appropriate on an ultra-modern house as on a traditional Cape, and the range of color possibilities—limited only by paint manufacturers’ imaginations—is unbeatable. The price is comparable to that of cedar shingles, at \$125 to \$160 per square. Terne roofing is also available on a stainless-steel base sheet at a cost about double that of the standard variety. It requires no painting, and weathers naturally to a uniform gray.

Unlike asphalt roofing, shingles, or slate, terne roofing is not well suited for do-it-yourself application.

Metal Panels

Metal roofing panels [Figure 9] don’t last as long as standing-seam terne, and as most people would probably agree, they’re not as good looking. But panels offer some definite advantages of their own. The first is cost. A homeowner can buy good-

quality galvanized-steel roofing for about \$70 per square, about the same as the best fiber-glass-based asphalt shingles. In addition, the cost of sheathing when using panels is far lower; because of the panels’ inherent stiffness, a solid deck is unnecessary. Roofers normally lay the metal panels directly over 1-by-4 strapping spaced on 12- to 24-inch centers. No underlayment is required, although a layer of felt is sometimes used to help prevent air infiltration in cold climates.

Moreover, metal panels are the fastest and easiest roofing to apply. Individual sheets come in continuous lengths—up to 24 feet—and in widths from 24 to 36 inches. One panel provides a total coverage—even after overlapping the edges—of 22 to 30 inches, and because of the pressed ridges or corrugations, the panels self-align. Each successive sheet is simply lapped over the preceding one and nailed fast to the underlying 1-by-4 strapping. To prevent leakage through the nail holes, special roofing nails are driven only into the ridges—never into the troughs [Figures 9 and 10]. The nails have snug-fitting lead or neoprene washers just beneath the heads which effectively cap the punctures left by the shanks.

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Portland, Oregon 97205
Cable: Histore

Mr. Glenn J. Farris
Cultural Resources Management Unit, DPR
2572 Port Street
West Sacramento, California 95691

14 June 1984

Dear Glenn:

It was a special pleasure ^{am} to meet you when you were in Portland earlier this spring - I was very much interested in all the work you have done on Fort Ross, and it is always a treat to meet in person with scholars who are working in the same area of research as we are. I am delighted to have the wonderful report you've done, as well as the articles - you are very generous to send these along for our library, where they are much appreciated.

I am enclosing a relatively recent view of the Erskine House. Of course as soon as I looked at the photograph and at an early drawing of the site, I realized I had mis-remembered the structure of the Erskine House. I am certain you are correct in identifying the structure in your report as the warehouse. I don't know the name of the present curator of the Erskine (now called Baranof) House, but certainly a letter addressed to the curator in Kodiak would reach her - Kodiak is a pretty small place and the museum is a town landmark.

In regard to your question about the Blomkvist article on the Voznesenskii drawings: the comment on p. 106 about metal roofs is almost certainly hers - but was undoubtedly taken from Voznesenskii's notes - this is speculation on my part, but I don't believe she could have concluded the roofs were metal just from the drawing. In the Sbornik Muzeia Antropologii i Etnografii No. XXIV (Leningrad: 1967): Kultura i Byt Narodov Ameriki, R. G. Liapunova has written an article entitled "The expedition of I. G. Voznesenskii and its significance for the ethnography of Russian America." On p. 6 she comments, "In 1951 E. E. Blomkvist published 36 of the drawings of I. G. Voznesenskii preserved in the Museum of Anthropology and Ethnography, which he had made during his travels in the former Russian possessions in America....The material in the article was based on unpublished letters, reports, diaries, collection lists and other documentary materials of Voznesenskii, including materials from the K. K. Gilzen archive."

I am going to be at the Bohemian Grove this weekend - the last time I was there we had a special expedition (a small number of persons, that is) to Fort Ross - if I'm lucky, perhaps we will again this time. It would be most exciting to see all the work that has been done since I was last there five years ago.

Again - I do want to tell you what a pleasure it was to meet you, and how much I appreciate your kindness in sending all the fine materials to me. Warmest congratulations on all the superb work and research you are doing!

With all best wishes,

Sherry Vaughan

E. A. P. Crownhart Vaughan
Russian Department

(much easier than Elizabeth Ann Perpetua!)

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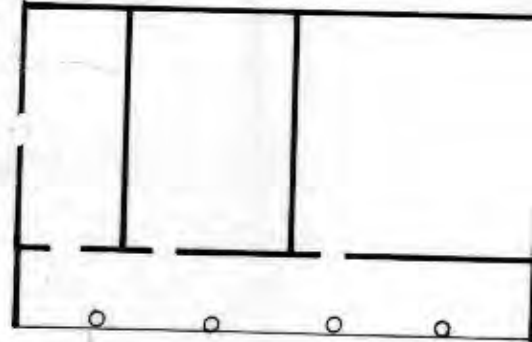
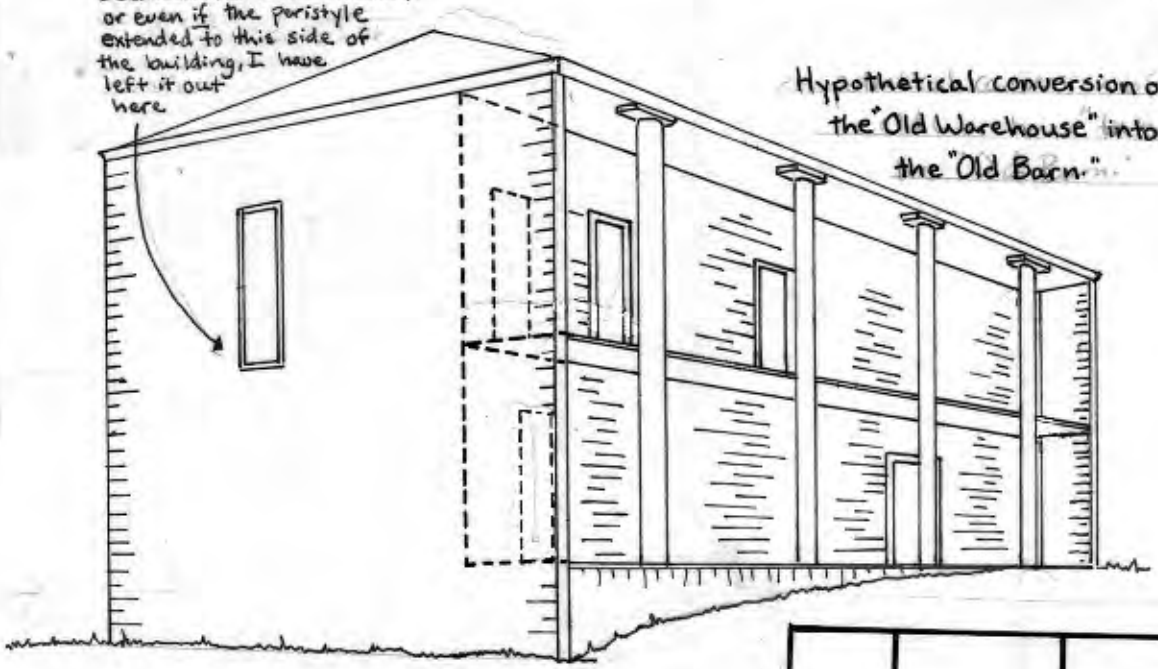


*PACIFIC
NORTHWEST
QUARTERLY*

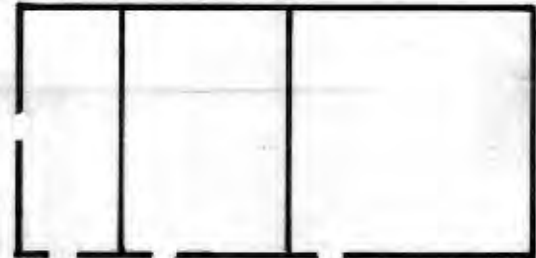
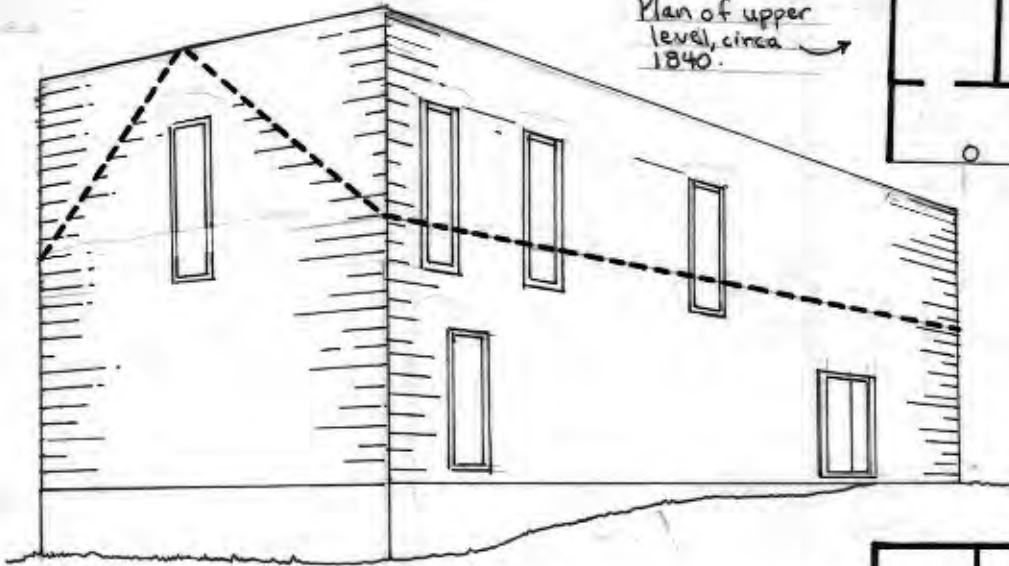
Because it is uncertain how, or even if the poristyle extended to this side of the building, I have left it out here

Hypothetical conversion of the "Old Warehouse" into the "Old Barn"

THE OLD WAREHOUSE.



Plan of upper level, circa 1840.



Plan of upper level, circa 1890.

THE OLD BARN.

