Homer P. Retters
105857

REPORT OF THE SUPERINTENDENT

OF THE

U. S. COAST AND GEODETIC SURVEY

SHOWING

THE PROGRESS OF THE WORK

QC 296 .U5 1888

DURING THE

FISCAL YEAR ENDING WITH

JUNE, 1888.

WASHINGTON: GOVERNMENT PRINTING OFFICE. 1889.

```
station on Capitol Hill, Washington, D. C., p. 42.
SCHUYLKILL RIVER. Reference to, p. 40.
SCORESBY (schooner). Use of and reference to, p. 152.
SEAL ISLAND LIGHT-HOUSE. Triangulation to determine posi-
  tion of, p. 21.
SECOND PRINCIPAL MERIDIAN. Connected with triangulation
  in, Indiana, p. 80.
SECTION I. Progress of work in, pp. 19-41.
SECTION II. Progress of work in, pp. 34-41.
SECTION III. Progress of work in, pp. 42-45.
SECTION IV. Progress of work in, pp. 45-47.
SECTION V. Progress of work in, p. 47.
SECTION VI. Progress of work in, pp. 47-51.
SECTION VIII. Progress of work in, pp. 51-56.
SECTION VIII. Progress of work in, pp. 56-56.
SECTION XI. Progress of work in, pp. 66-73.
SECTION XII. Progress of work in, pp. 73-78.
SECTION XIII. Progress of work in, pp. 78-79.
SECTION XIV. Progress of work in, pp. 79-83.
SECTION XV. Progress of work in, pp. 83-85.
SECTION XVI. Progress of work in, p. 86.
SENGTELLER, L. A., ASSISTANT. Resurvey of Suisun Bay and
  tributaries, California, pp. 64, 65; office work, p. 64; services in pri-
  mary triangulation of California, p. 61.
SHARK RIVER. Reference to, p. 49.
SHAWAUKEMO. Triangulation station, Massachusetts, reference
  to, pp. 30, 31.
SHELL ISLAND, LA. Tides observed at, p. 54.
SHELTON, ROBERT. Printing room, p. 120.
SHELTON, S. B. Tidal Division, p. 135.
SHEPHERD, CAPTAIN, U. S. REVENUE MARINE. Reference
  to. D. 94.
SHIDY, L. P. Tidal Division, pp. 91, 114, 134.
SHINDEL, J. E., ENSIGN, U. S. NAVY. Services in Gulf Stream
  explorations, p. 48.
SHINGLE MILL WHARF, near mouth of Salt River, Cal. Tides
  observed at, p. 65.
SHINNECOCK BAY, LONG ISLAND, N. Y. Reference to,
  p. 35
SHINNECOCK LIGHT-HOUSE, LONG ISLAND, N.Y. Refer-
  ence to, p. 35.
SHIP JOHN SHOAL. Reference to, p. 40.
SHIPLEY, JOHN H., ENSIGN, U.S. N. Services in Alaska, pp.
  73-77.
SHIP SHOAL LIGHT-HOUSE. Reference to, p. 54.
SHOALWATER BAY, OREGON. Hydrography of, pp. 69, 70. SHOALWATER BAY AND GRAY'S HARBOR. Off-shore hy-
  drography between, pp. 69, 70.
SHORE-LINE CHANGES ON MARTHA'S VINEYARD. (Ap-
pendix No 9, 1886.) Reference to, p. 29.
"SHORTIS HOUSE". Triangulation station in, Oregon, p. 69.
SHORTLAND. Triangulation station in. Maine, p. 20.
SHOVELFUL LIGHT SHIP. Tidal current observed at, p. 27. SHREWSBURY RIVER, N. J. Reference to, p. 39.
SHUMAGIN ISLANDS, ALASKA, p. 77.
SIASUONET VILLAGE MASS. Reference to, p. 28.
SIERRA MORENA. Triangulation station in California, p. 61.
SIGNAL SERVICE, U.S. ARMY. Observations of ice in Dela-
   ware River by, p. 39.
SILLIMAN. Schooner, p. 155.
SILVER FIR TREES IN SOUTHERN CALIFORNIA. Refer.
  ence to, p. 60.
SIMMONS. Station in triangulation of, Kansas, p. 84.
SIMMS, A. D. Watchman, p. 138.
SINCLAIR, C. H., ASSISTANT. Triangulation, topography, and
  hydrography of the Atchafalaya River and detached surveys on
  the coast of Louisiana, pp. 54, 55; exchanges of telegraphic signals
  for longitude between San Francisco, Cal., and Portland, Oregon,
  p. 63; observations for latitude at Portland, Oregon, p. 63; tele-
```

graphic longitude determinations between Portland, Oregon, and

Walla Walla, Wash., and between Walla Walla and Salt Lake

City: determinations of latitude and the magnetic elements at

Walla Walla, pp. 67, 68; surveys and examinations at Burnt

Island, Mich., p. 83; determinations of longitude at Salt Lake

SCHOTT, CHARLES A., ASSISTANT. In charge of Computing

Division, pp. 89, 113, 118; magnetic determinations (annual) at a

```
SINCLAIR, C. H., ASSISTANT-Continued.
  City and Walla Walla, Wash., p. 86; special surveys and examina-
tions made at the request of the Department of State and with
  the approval of the Secretary of the Treasury at Burnt Island.
  Mich., p. 89; reference to, p. 153.
SINCLAIR EAST-LUMMI ROCKS. Line in triangulation of.
   Washington, p. 72.
SINCLAIR HILL, ME., p. 21.
SIPE, E. H. Engraving Division, pp. 119, 122-124.
SLOCUM, G. R., ENSIGN, U. S. N. Services on coast of Washing-
ton Territory, p. 70.
SLOOP POINT, N. C. Reference to, p. 46; check-base measured at,
  p. 46.
SMITH, EDWIN, ASSISTANT. Exchanges of telegraphic signals
  for longitude between San Francisco, Cal., and Portland, Oregon.
  p. 63; telegraphic longitude determinations between Portland.
  Oregon, and Walla Walla, Wash., and between Walla Walla and
  Salt Lake City; determinations of latitude and the magnetic
  elements at Walla Walla, pp. 67, 68; determinations of longitude
  by exchanges of telegraphic signals between Yaquina and Portland,
  Oregon, and between Portland and Seattle, Wash.; observations
  for latitude and the magnetic elements at Yaquina, and for the mag-
  netic elements at Portland, pp. 68, 69; determinations of longitude
  at Salt Lake City and Walla Walla, Wash., p. 86; preparation of
  catalogue of engraved plates, p. 90; reference to, p. 114; services
  in Engraving Division, p. 120.
SMITH, J. L. Chart Division, p. 129.
SMITH, MISS PAULA E. Accounting Division, pp. 92.146.
SMITH'S ISLAND (Cape Charles). Reference to p. 44.
SMITHSONIAN INSTITUTION. Gravity determinations at p.
42; reference to, p. 90.
SMOOT, JOHN H. Clerk to Engraving Division, pp. 90, 120.
SNOW, A.S., LIEUTENANT COMMANDER, U.S.N. Reference
  to, p. 75.
SOMERSET TOWNSHIP, MASS. Reference to, p. 25.
SOMMER, E. J. Drawing Division, pp. 124, 126-128.
SOURHOI ISLANDS, ALASKA. Check base measured on the, p.
SOUTH CAROLINA. Included in Section V, p. 47.
SOUTH CHURCH SPIRE. Triangulation station in Massachu-
  setts, reference to, p. 30.
 SOUTHERN PACIFIC RAILROAD. Reference to, p. 58.
SOUTHEAST BASE, LOS ANGELES, CAL. Reference to, p. 58.
SOUTHWEST HEAD LIGHT-HOUSE. Triangulation to deter-
  mine position of, p. 21.
SOUTHWEST PASS, VERMILION BAY, LA. Reference to, p.
  54 : greatest depth in channel, p. 56.
SOW AND PIG'S REEF. Reference to, p. 32.
SPANISH KEY CHANNEL. Reference to, p. 49.
SPANISH RIVER. Reference to, p. 52.
SPAULDING, J. G. Tidal observer, Pulpit Cove, p. 23; tidal ob-
SPAULDING, J. G. TRUEL OBSETVET, FRIPIT COVE, p. 20; EMERICO-
SETVET AT SANDY HOOK, N. J., p. 39.

SPECIAL HYDROGRAPHIC EXAMINATIONS AT SAN
JUAN CAPISTRANO, LA BALLONA, AND AT NEWPORT
AND SAN PEDRO BAYS, CAL., p. 58.
SPECIAL HYDROGRAPHY FOR THE STATE OF NORTH
  CAROLINA COMPLETED, p. 45.
SPECIAL OPERATIONS, pp. 87-89; reference to, pp. 6-7.
SPECIAL SCIENTIFIC WORK, pp. 8-11.
SPECIAL SURVEYS AND EXAMINATIONS, MADE AT THE
  REQUEST OF THE DEPARTMENT OF STATE AND WITH
  THE APPROVAL OF THE SECRETARY OF THE TREAS-
  URY, AT BURNT ISLAND, MICH., p. 89.
SPECIMENS OF BOTTOM. Statistics of, p. 106.
SPRITE (steam-outter). Use of, and reference to, p. 21.
SQUASH MEADOW SHOALS, VINEYARD SOUND. Reference
  to, p. 32.
STAFF AND BOX GAUGES DISCONTINUED. Statistics of,
  p. 106.
STAFF AND BOX GAUGES ESTABLISHED. Statistics of,
  p. 106.
STANDARDS OF WEIGHT AND MEASURE. Reference to re-
  port on construction and distribution of, p. 92.
ST. ANDREWS, NEW BRUNSWICK. Position of light-house
```

determined, p. 20.

ST. ANDREW'S BAY. Statistics of triangulation, p. 20.