

Fig.1

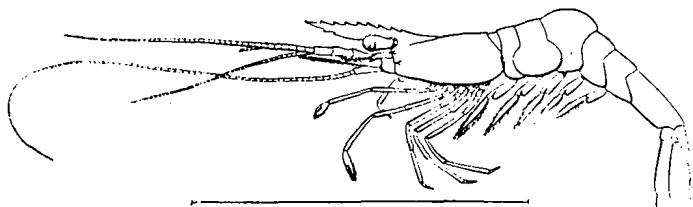
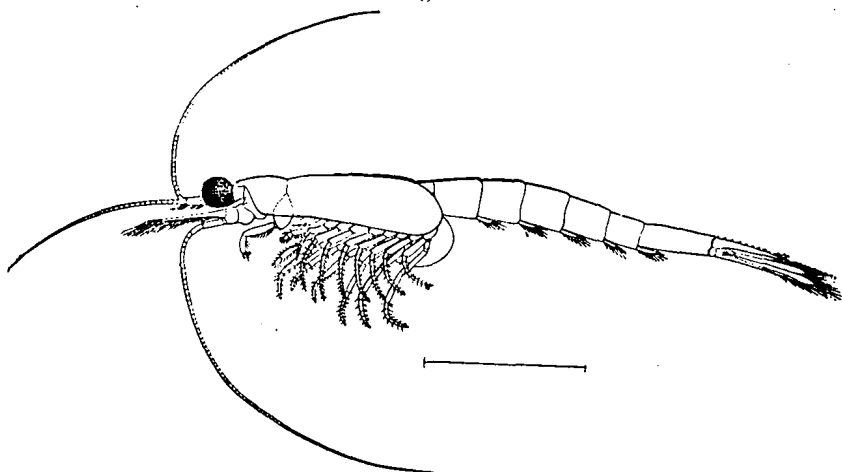


Fig. 2.



No. 618

Fig.3

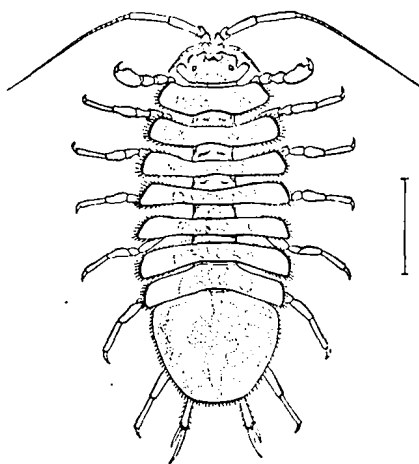


Fig.4

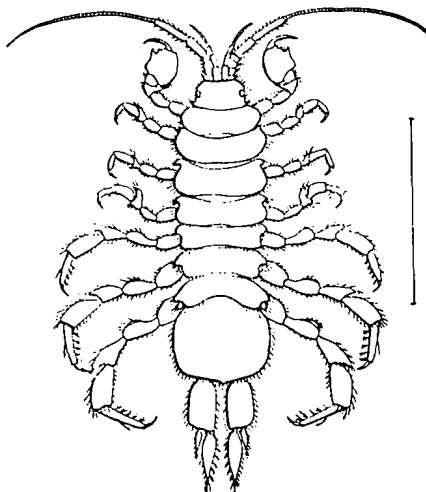


Fig. 5.

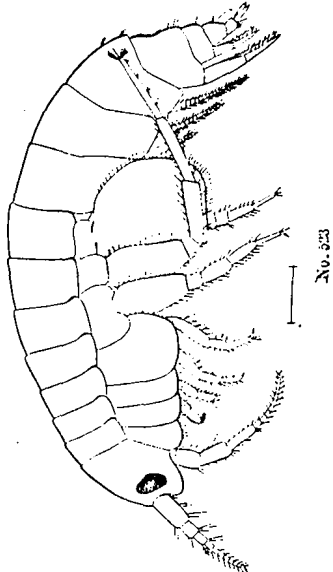


Fig. 6.

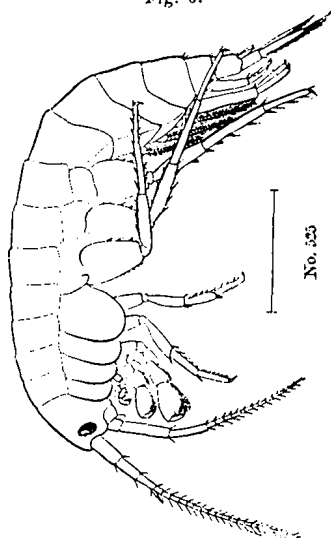


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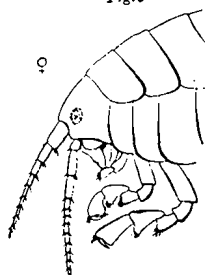


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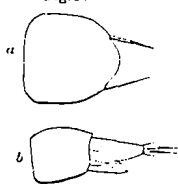


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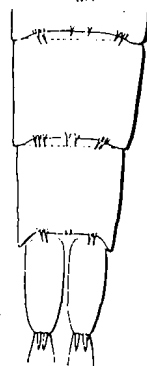


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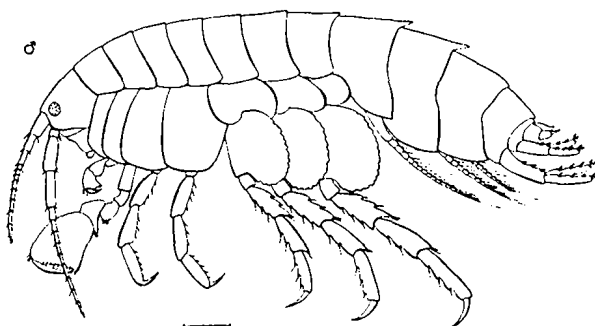


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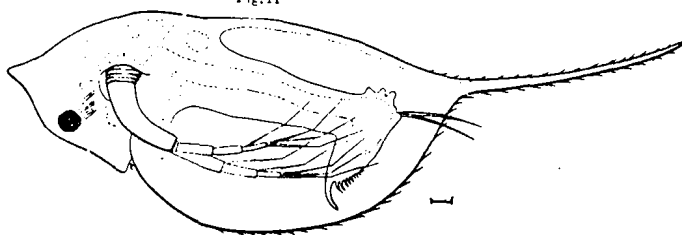


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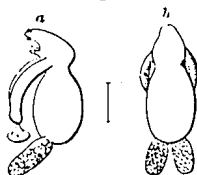


Fig. 13

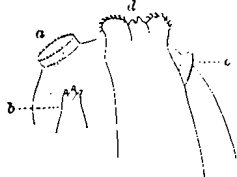


Fig. 14

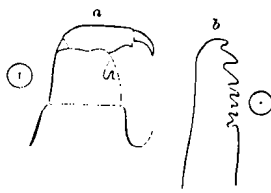


Fig. 16



Fig. 15

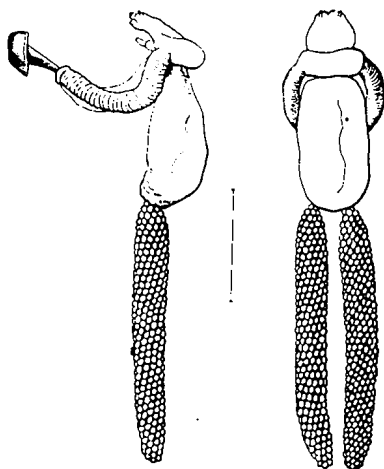


Fig. 17

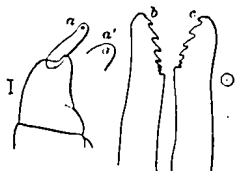


Fig. 18

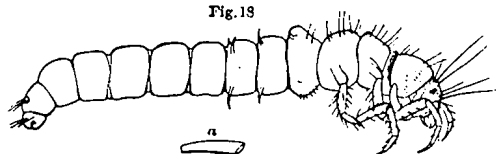


Fig. 20

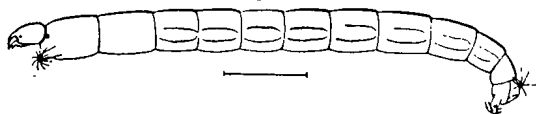


Fig. 21

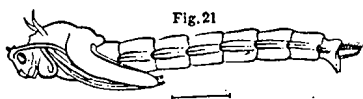


Fig. 22

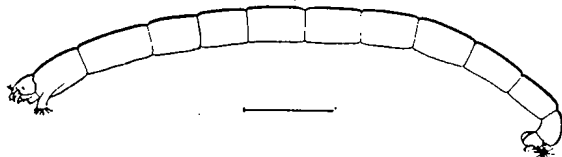
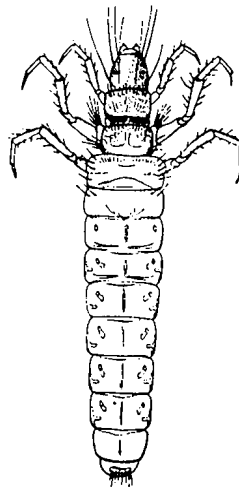


Fig. 19





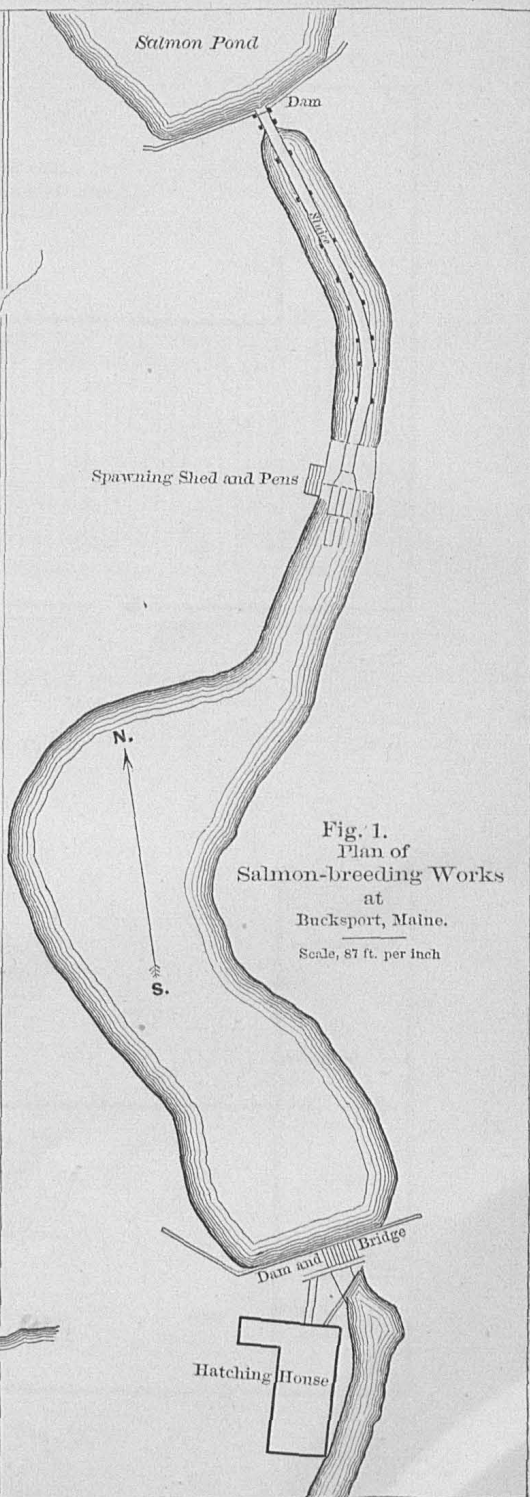
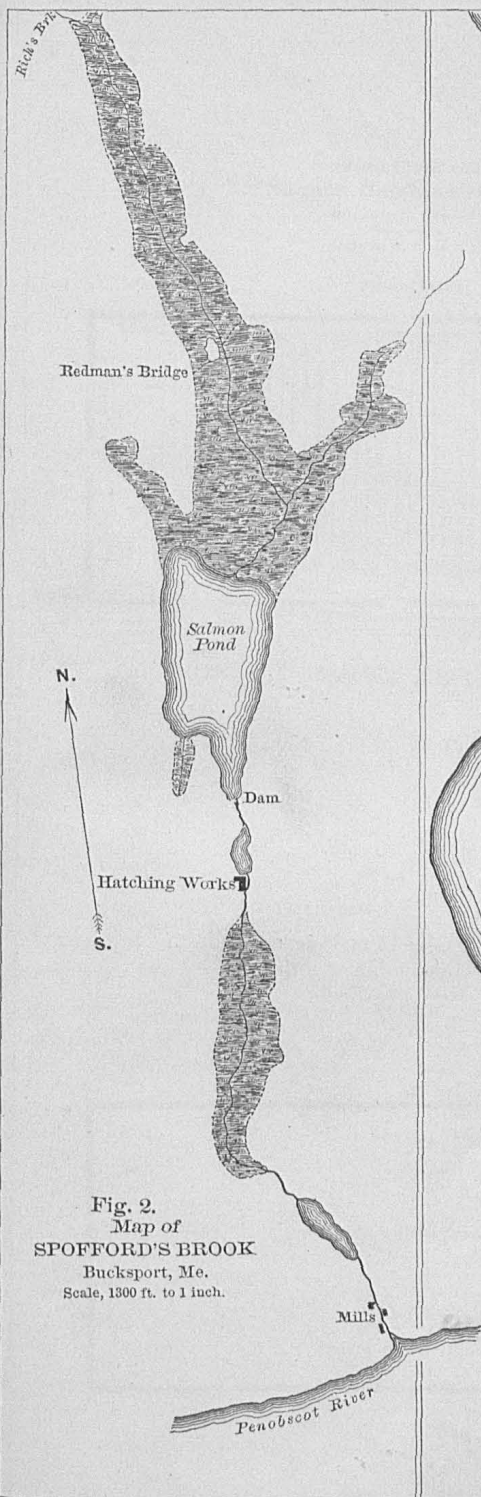
View of Salmon-pens and Spawning-shed, Bucksport, Me. From Harper's Magazine.



Fig. 1.—Interior of Spawning-shed, Bucksport, Maine. From Harper's Magazine.



Fig. 2.—Interior of Salmon-hatching House, Bucksport, Me. From Harper's Magazine.



Ground Floor of the
Salmon Hatching House.
Bucksport, Maine.

Scale 20 ft. to an inch.

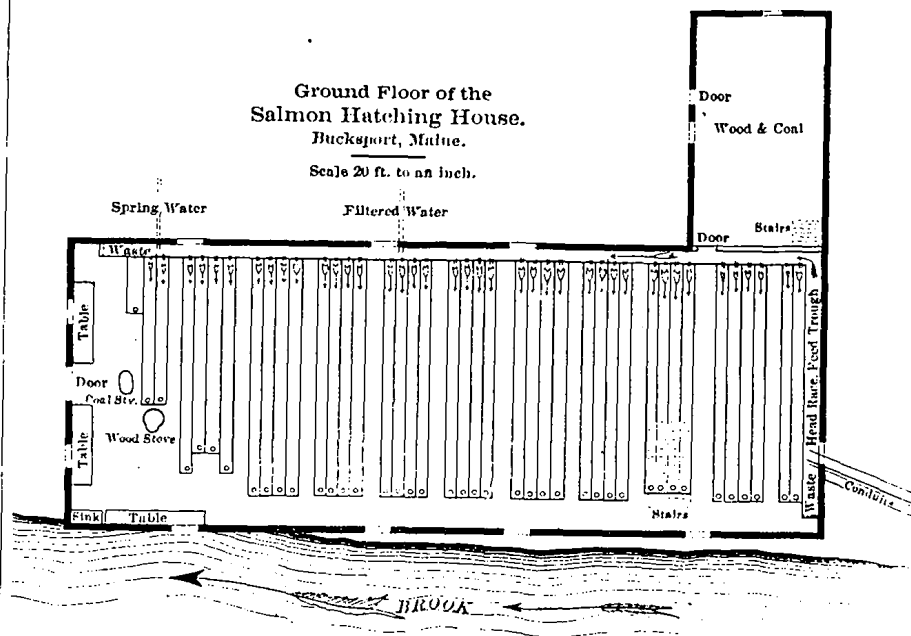


Fig. 1.

Second Floor of the
Salmon Hatching House.
Bucksport, Maine.

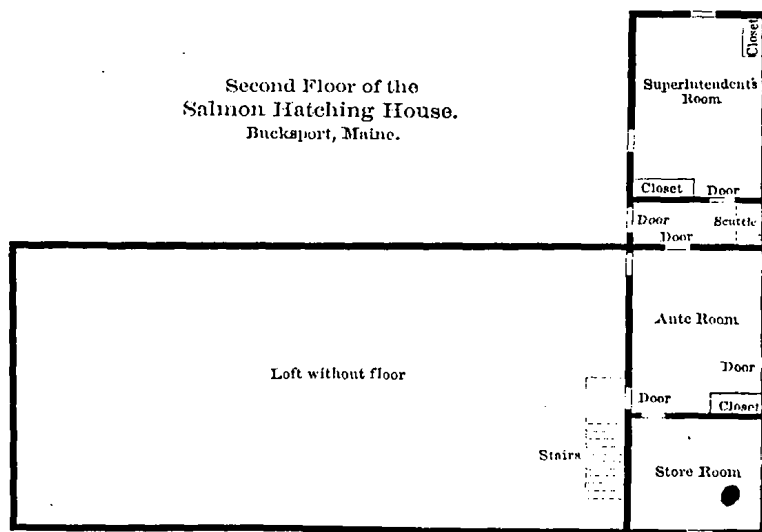


Fig. 2.

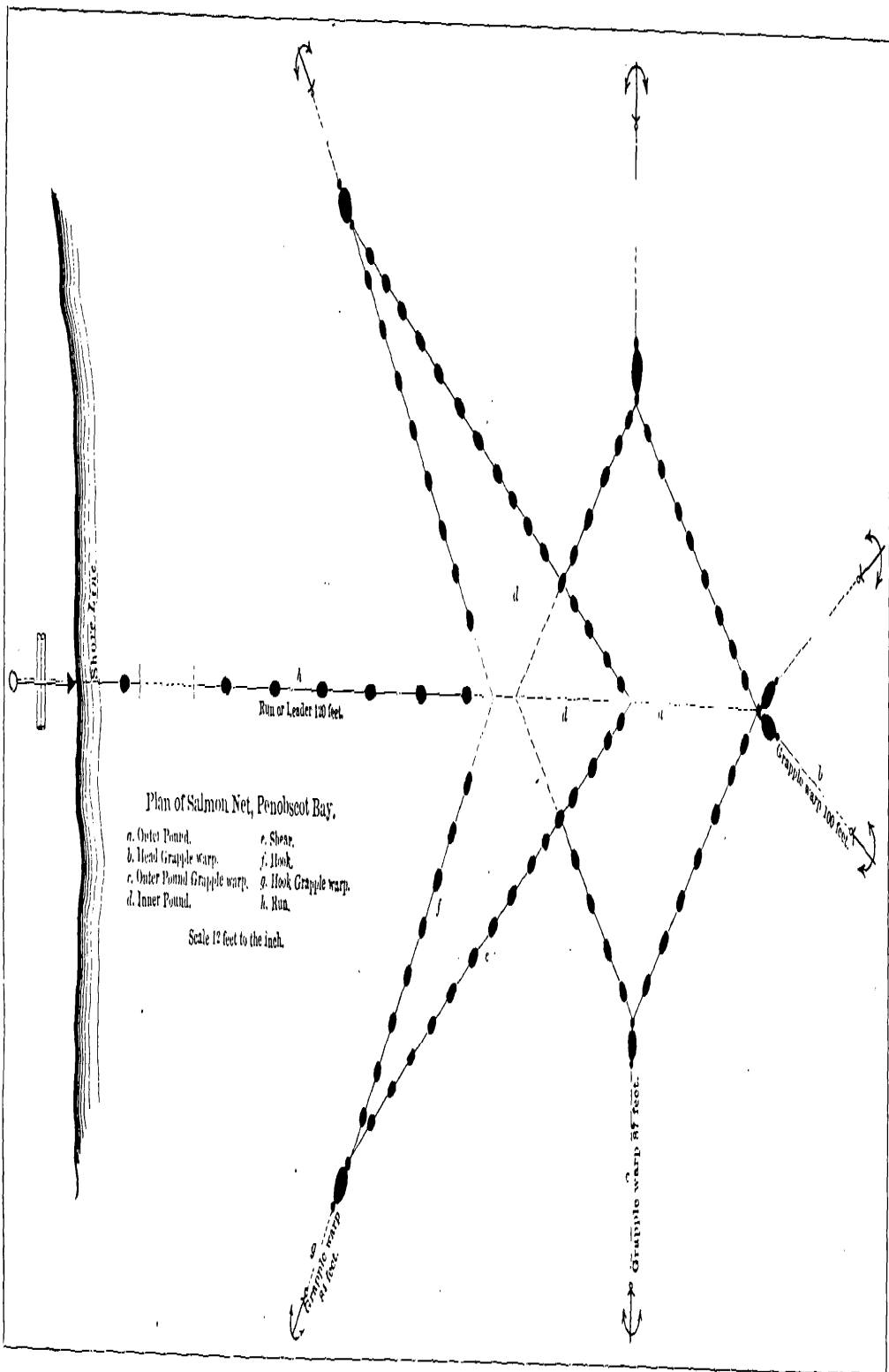


Fig. 1.—Gauge of (three) Salmon Nets, Penobscot Bay.
Scale 60 feet to the inch.

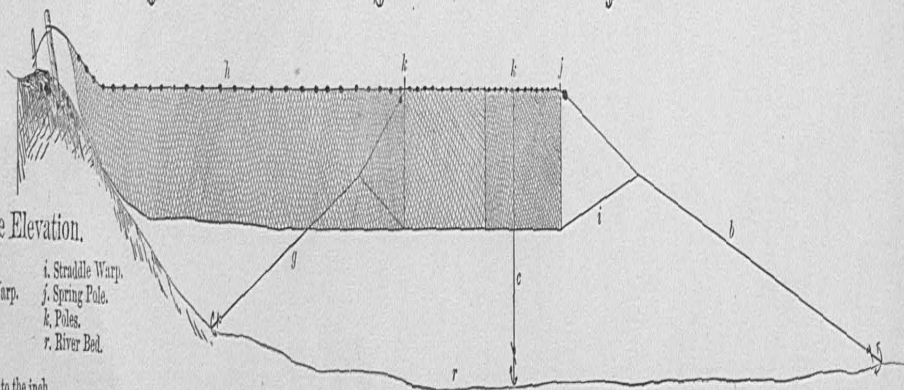
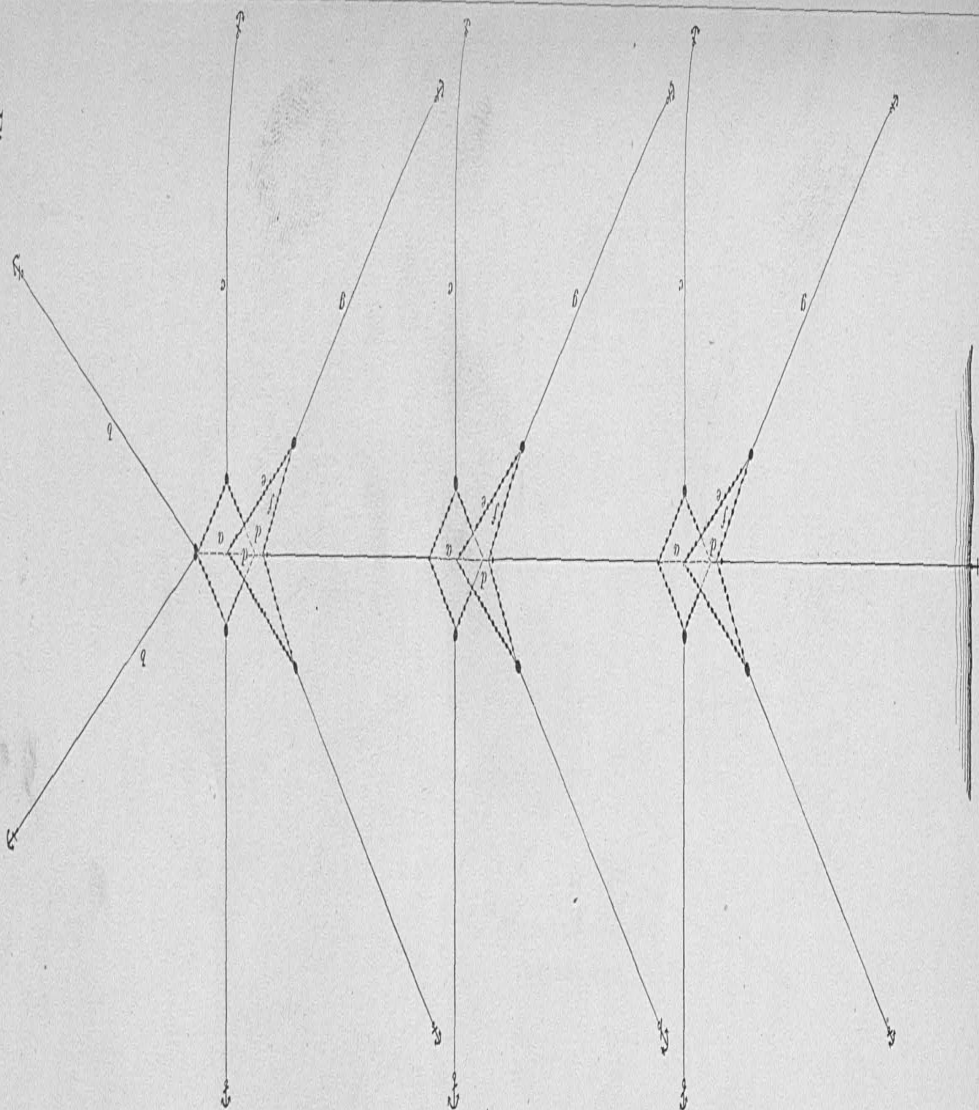
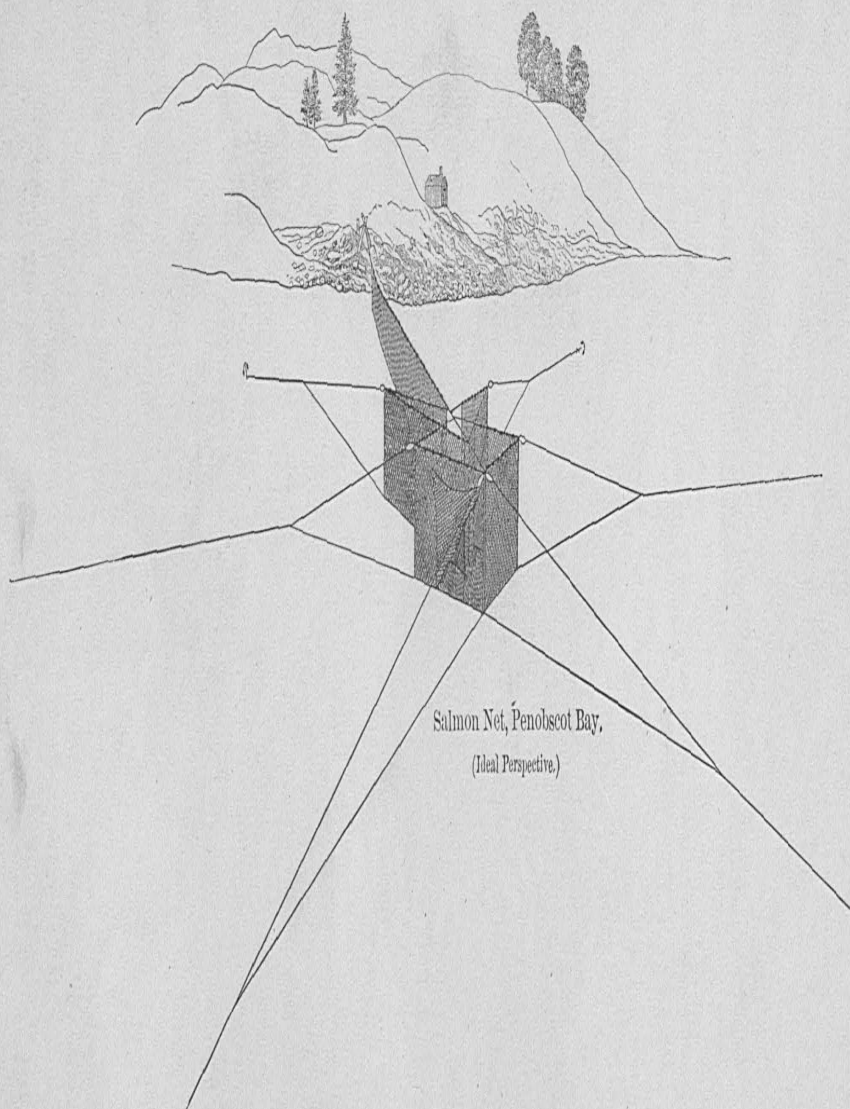


Fig. 2 Side Elevation.

- b. Head Grapple Warp.
- c. Outer Pound Grapple Warp.
- g. Hook Grapple Warp.
- h. Run.
- i. Straddle Warp.
- j. Spring Pole.
- k. Poles.
- r. River Bed.

Scale 36 feet to the inch.



Salmon Net, Penobscot Bay,
(Ideal Perspective.)

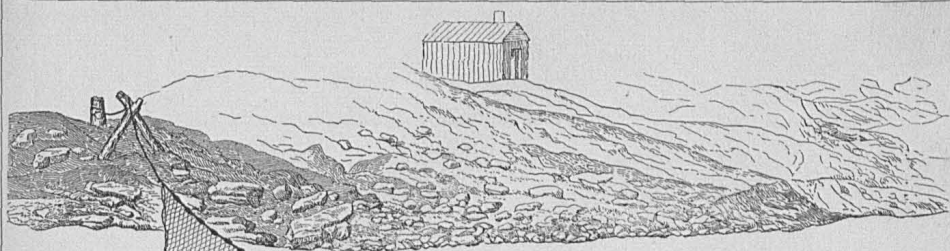


Fig. 1. Salmon Net, Penobscot Bay.
(Ideal Perspective)

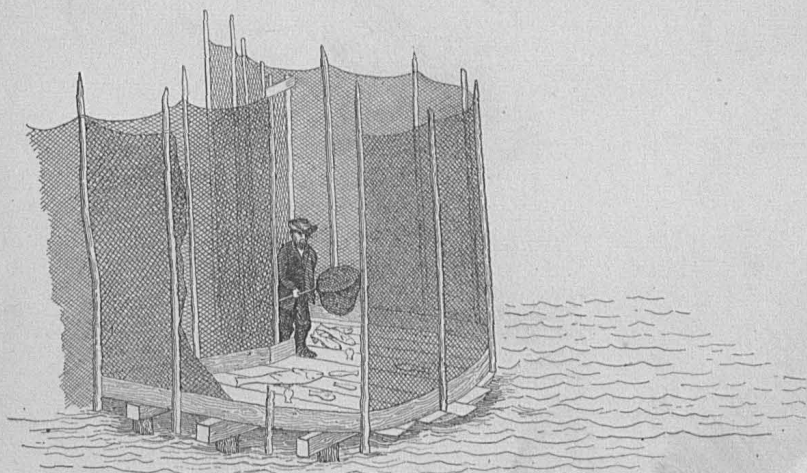
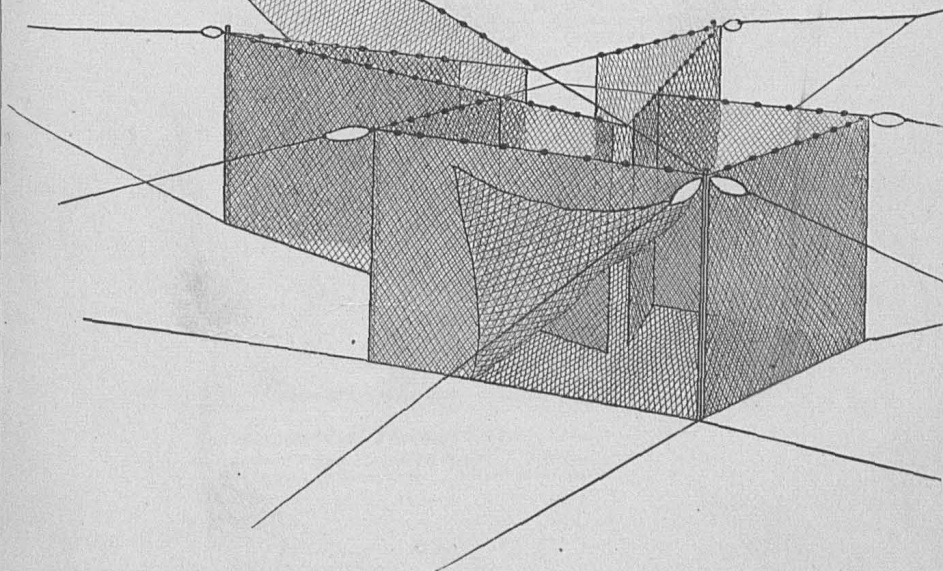


Fig. 2. The Fish-pound of Salmon Weir at Low Water,
Penobscot River.

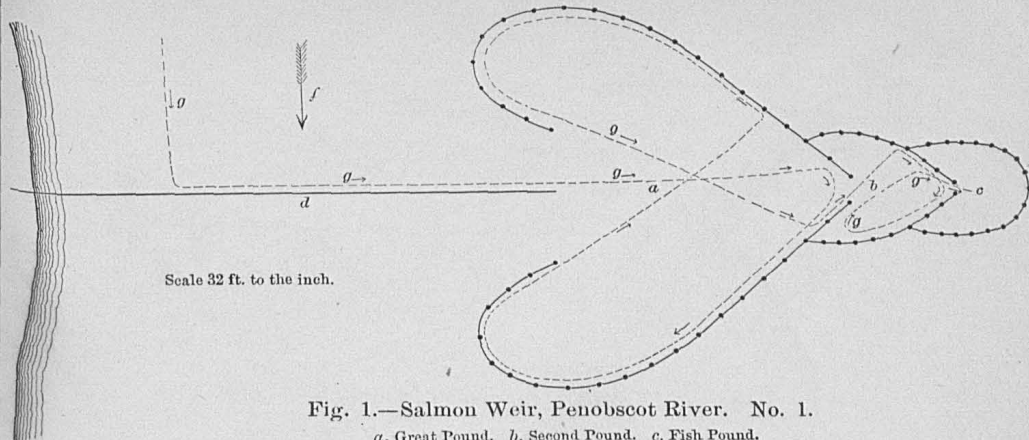


Fig. 1.—Salmon Weir, Penobscot River. No. 1.

a. Great Pound. *b.* Second Pound. *c.* Fish Pound.
d. Leader. *e.* Shore. *f.* Direction of Current.
g. ————— Course of Fish.

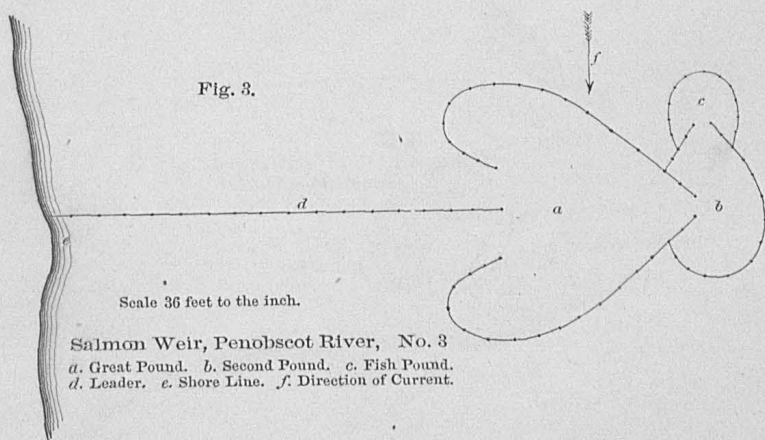


Fig. 3.

Salmon Weir, Penobscot River, No. 3

a. Great Pound. *b.* Second Pound. *c.* Fish Pound.
d. Leader. *e.* Shore Line. *f.* Direction of Current.

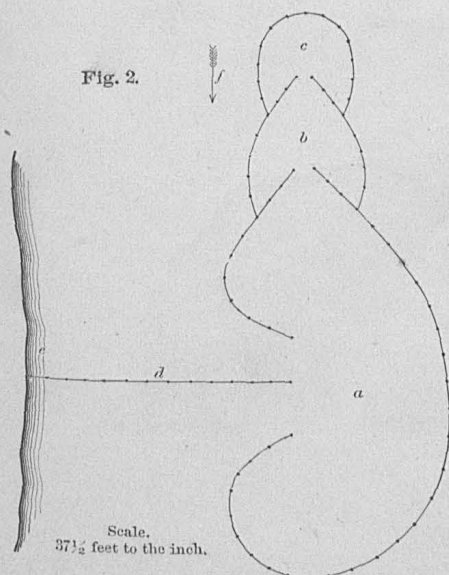


Fig. 2.

Salmon Weir, Penobscot River, No. 2

a. Great Pound. *b.* Second Pound. *c.* Fish Pound
d. Leader. *e.* Shore. *f.* Direction of Current.

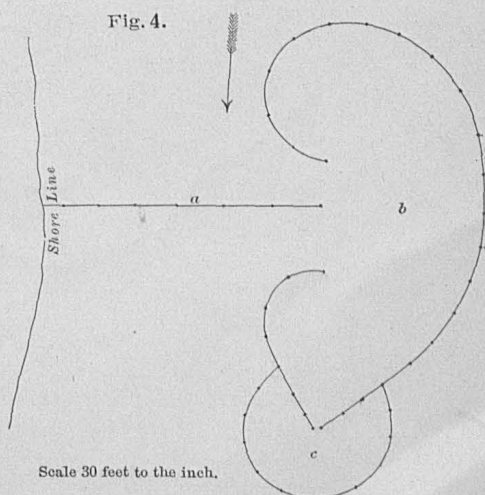


Fig. 4.

Fish Weir, St. Croix River.

a. Hedge. *b.* Big Pound. *c.* Little Pound.

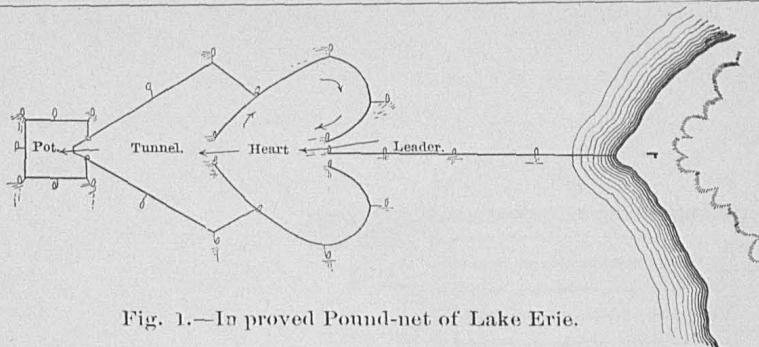


Fig. 1.—Improved Pound-net of Lake Erie.

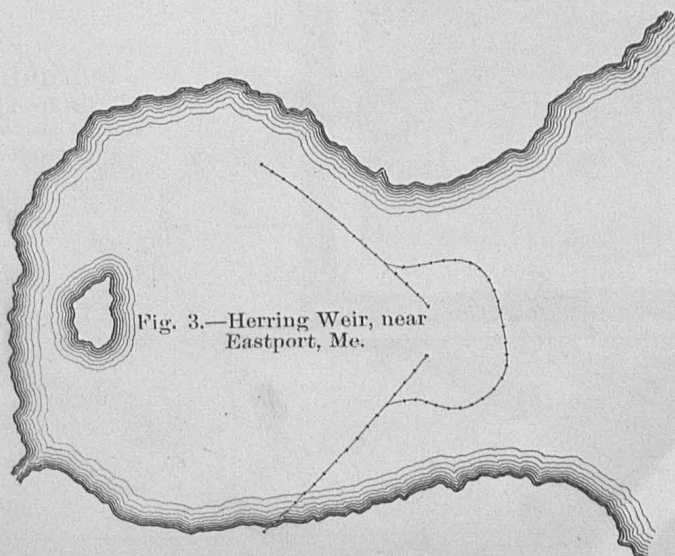
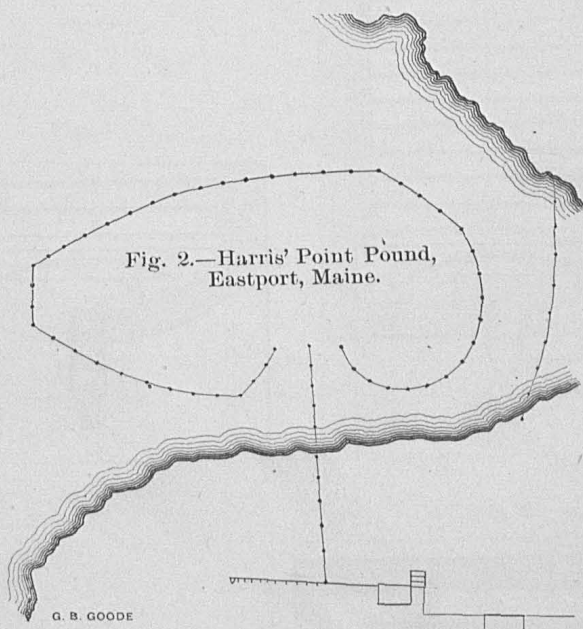


Fig. 1

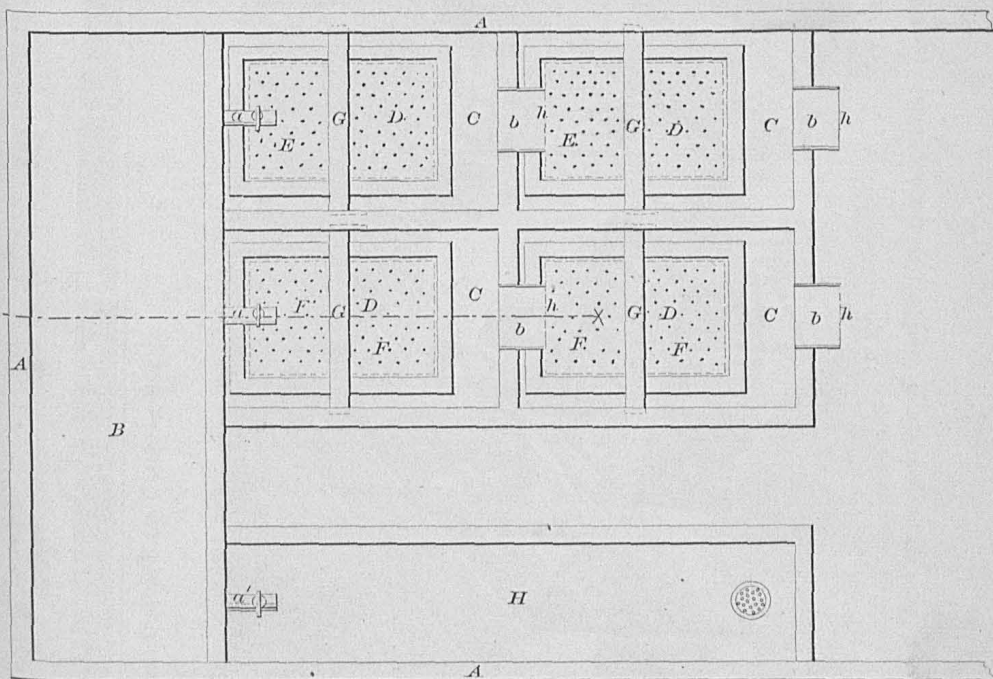


Fig. 2

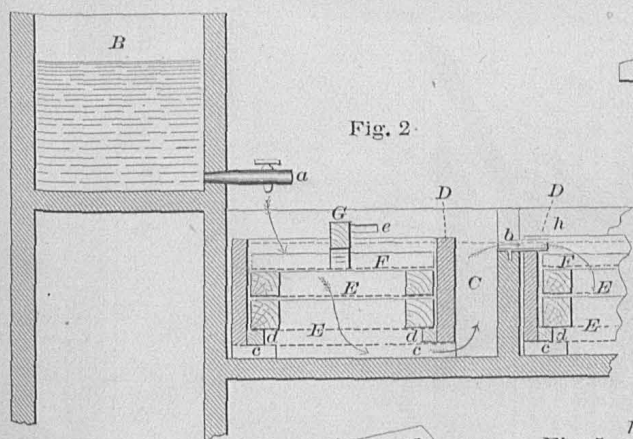


Fig. 3

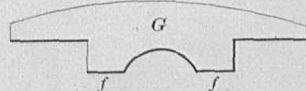


Fig. 5



Fig. 6

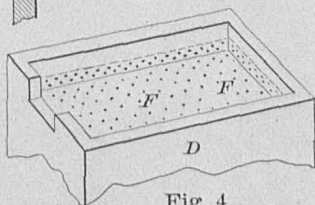
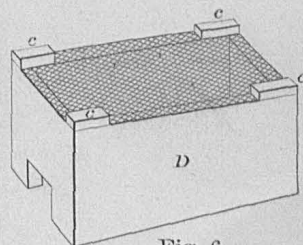
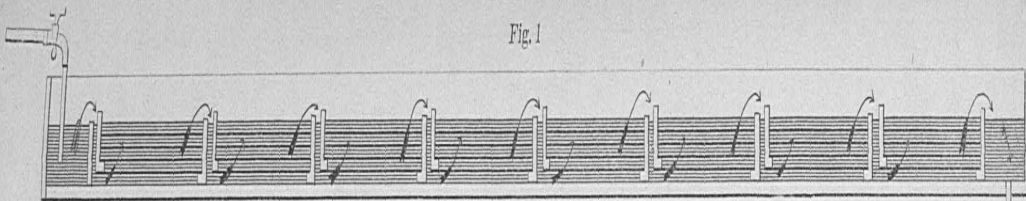


Fig. 4

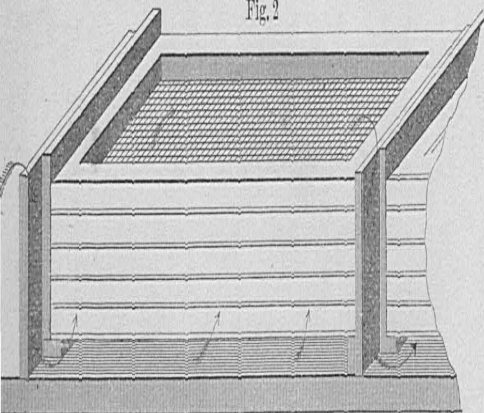
N. W. CLARK.
FISH-HATCHING APPARATUS
Patented March 3, 1874.
No. 148,035.

Fig. 1



Sectional view of Williamson's Double Riffle Hatching-Box.

Fig. 2



Nest of trays in Williamson's Double Riffle Hatching-Box.

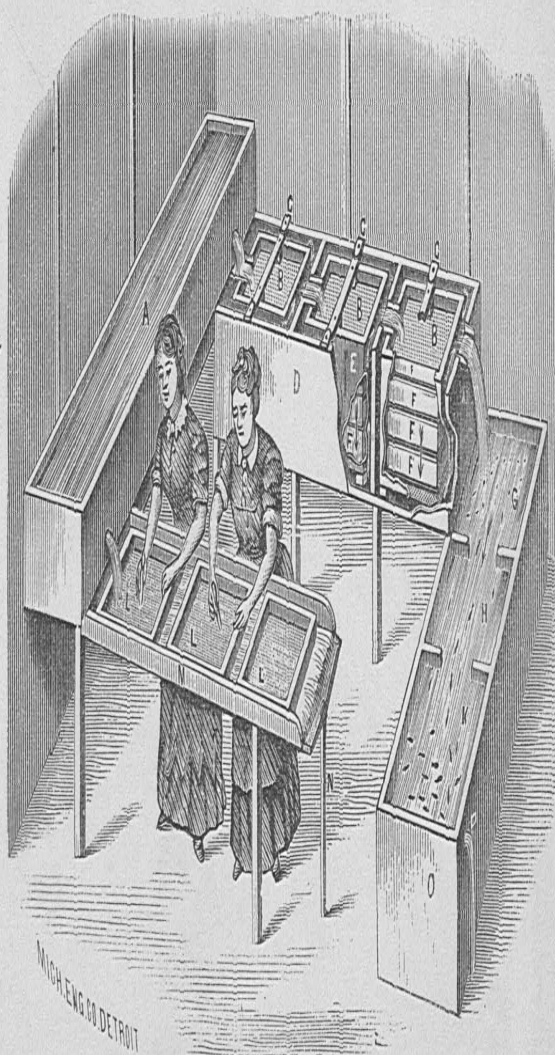


Fig. 3.—Perspective view of Clark's Hatching-Apparatus in operation.

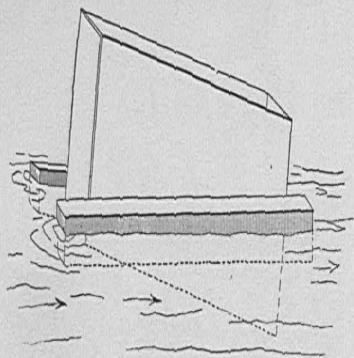


Fig. 1.—Seth Green's Hatching Box.

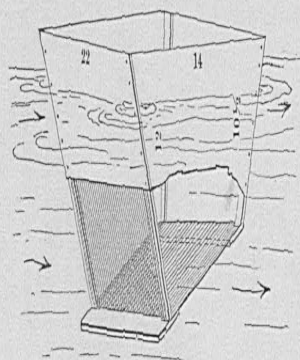


Fig. 4.—Stillwell and Atkin's Shad Box.

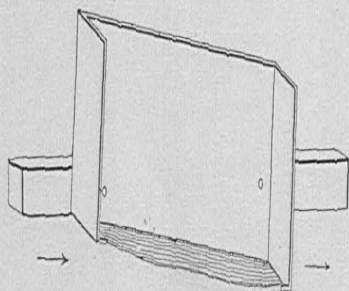


Fig. 2.—Vertical section of the same.

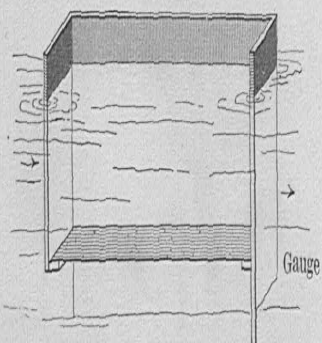


Fig. 3. Vertical section of Hatching Box or
H. M. BANNISTER.

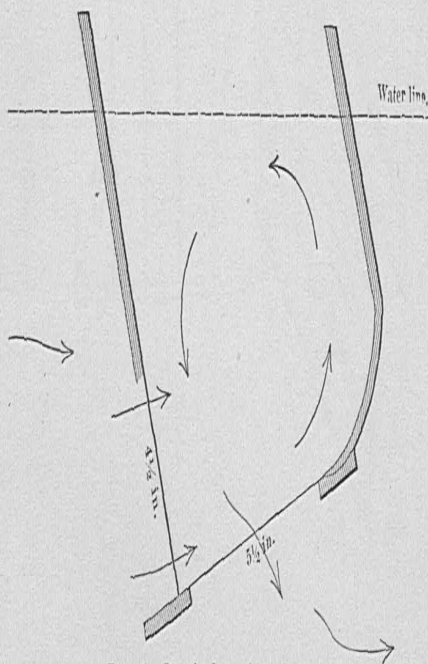


Fig. 5.—Vertical section of same.

Fig. 1

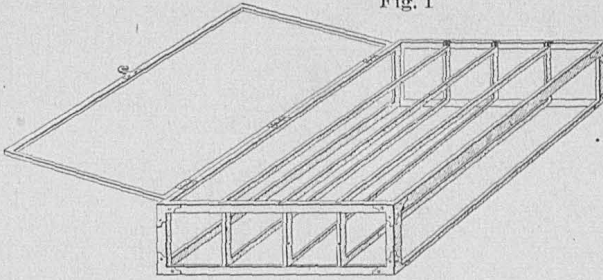


Fig. 2.

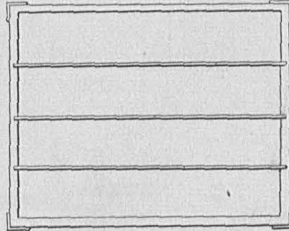


Fig. 1.—Perspective view of frame of box containing frames of gauze screens.

Fig. 2.—Plan view of box.

Fig. 3.—Plan view of gauze screens.

Fig. 4.—Perspective view of shallow pan containing gauze screen.

Fig. 5.—Skeleton of hatching basket.

Fig. 6.—Hatching basket.

Fig. 3.

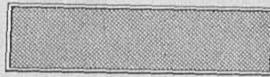


Fig. 4.

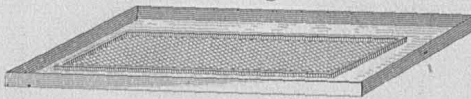


Fig. 5

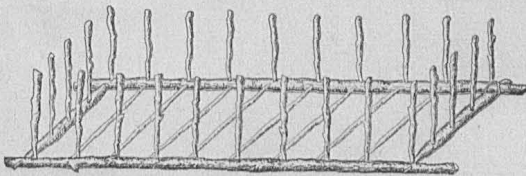
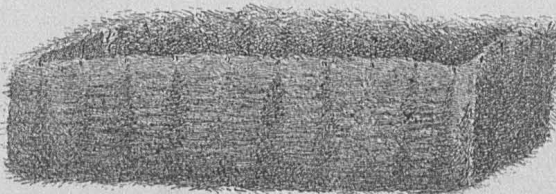


Fig. 6.



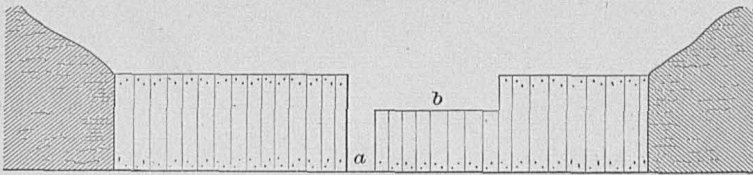


Fig. 1

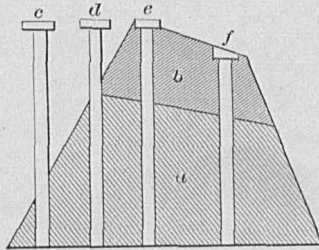


Fig. 2

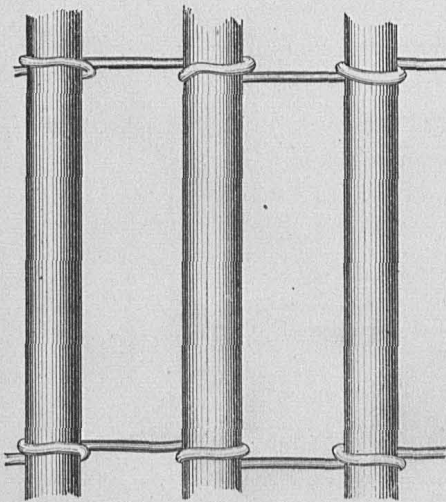


Fig. 4

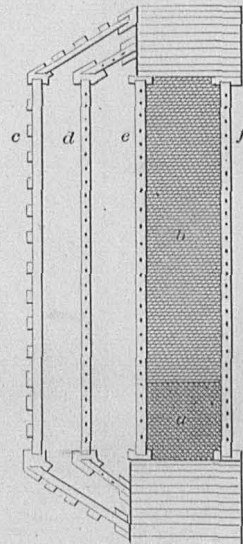


Fig. 3

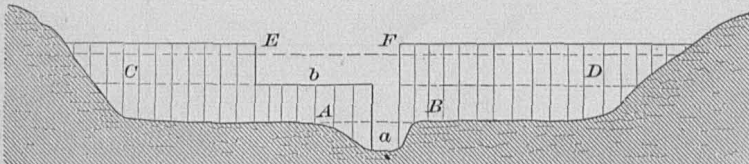


Fig. 5

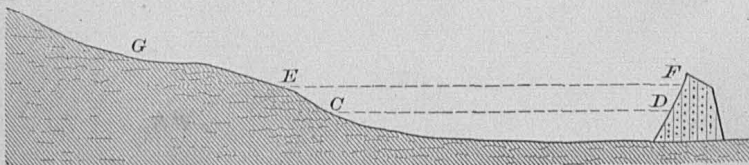


Fig. 6

Fishways in the Columbia Dam, Susquehanna River, Pennsylvania.

(Intended mainly for the passage of Shad.)

Scale, 24 ft.=1 inch.

Fig. 1. Fishway of 1873. Plan in Outline.

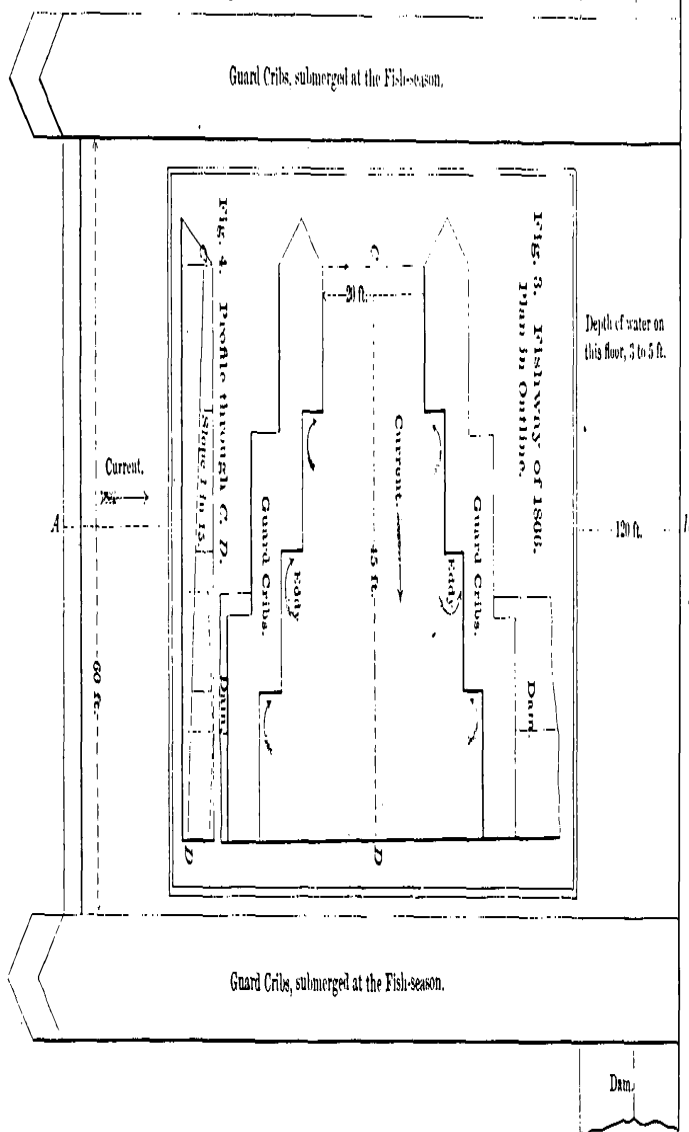
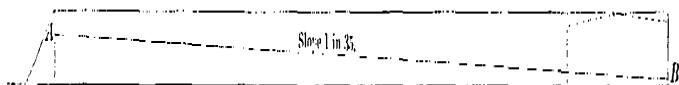


Fig. 2. Fishway of 1873: profile through A. B.



Inclined Fishways.

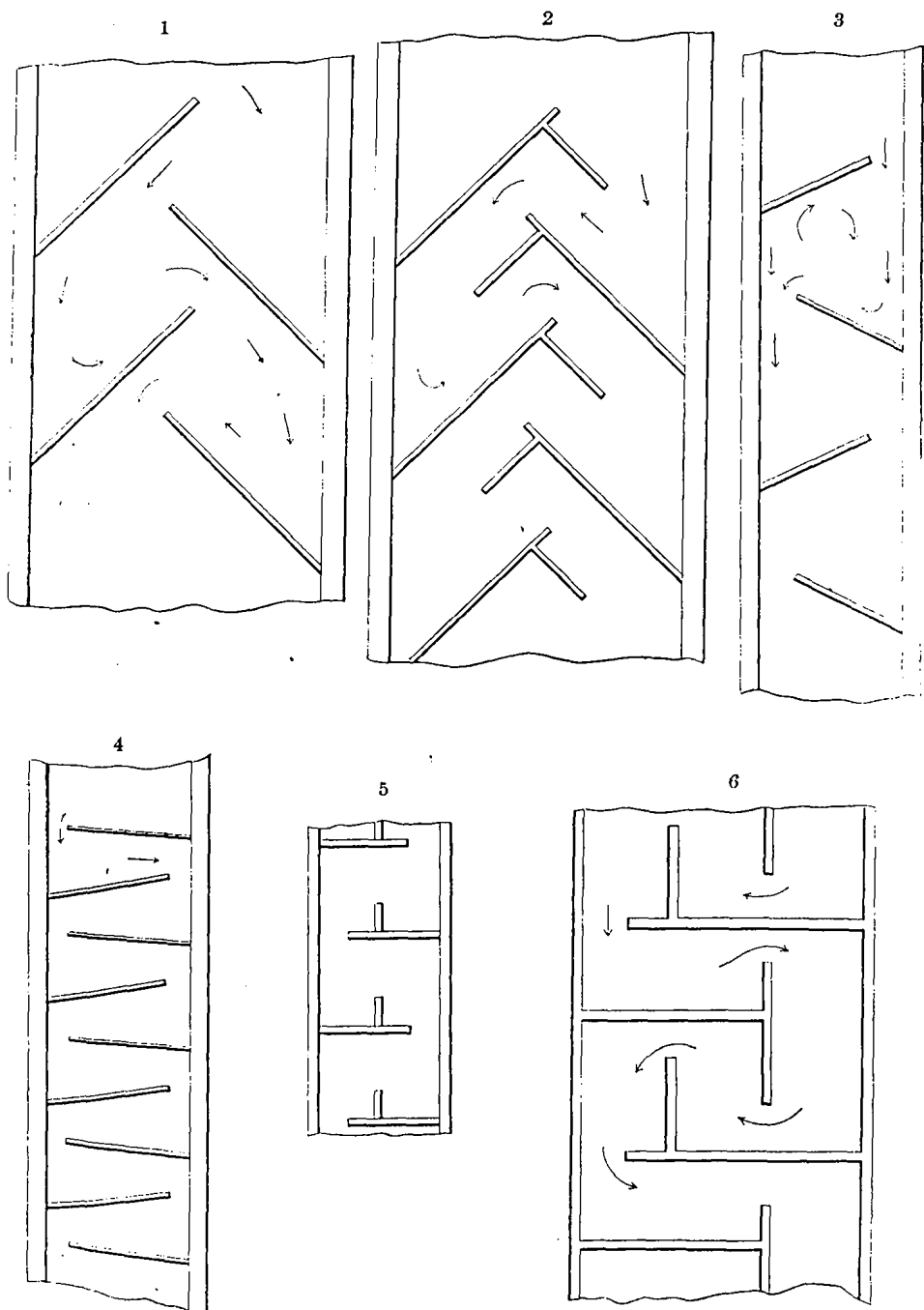


Fig. 1. The Swazoy Plan, invented by Alfred Swazoy of Bucksport, Maine.

2. The same, with additions, by C. G. Atkins.

3. The Foster Plan.

Fig. 4. Same, modified: as built on Penmaquan River.

5. From a design for a fishway on Androsoggin River, Aug. 1870.

6. The Brackett plan, patented by E. A. Brackett of Massachusetts.

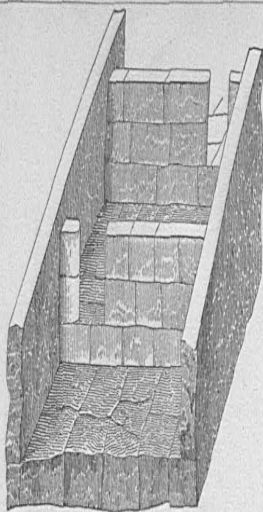


Fig. 1.

Smith's Fishway; invented by James Smith
of Deanstone, Scotland, 1849.

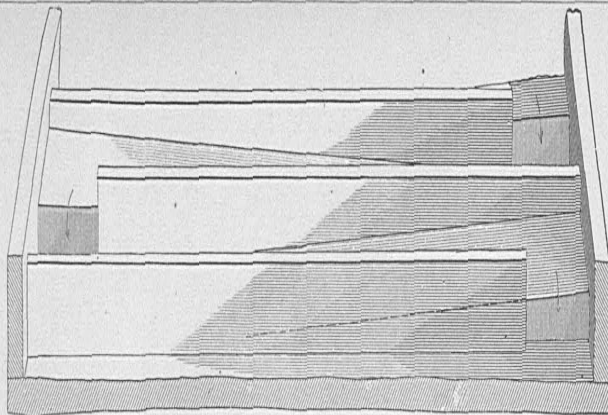


Fig. 2.

Stock's Fishway; invented by Daniel Stock of Pennsylvania.

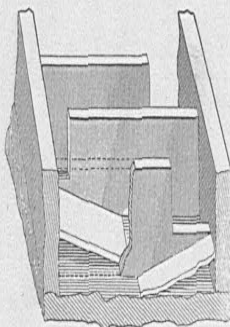
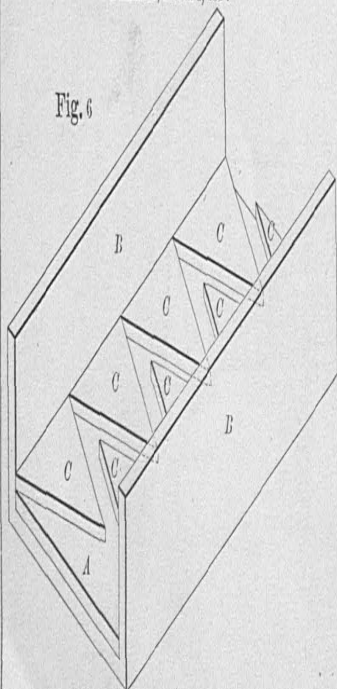


Fig. 3.

A recent device, not tested.

Fig. 6



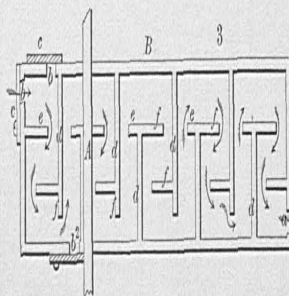
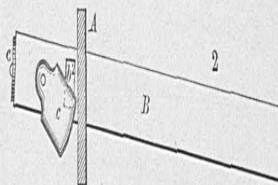
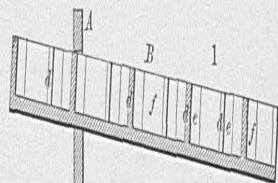
JAMES D. BREWER.

Improvement in Chute and Fishway.

Patented April 30, 1872.

No. 126,257.

Fig. 5



E. A. BRACKETT.

Improvement in Fish-Ways.

Patented Oct. 22, 1872.

No. 132,349.

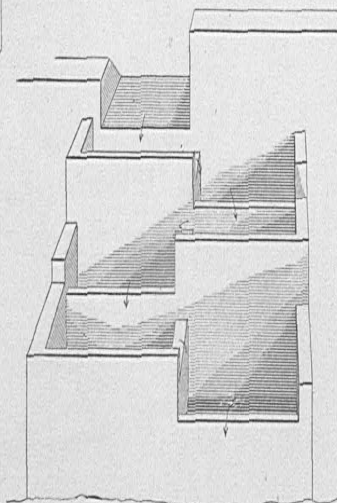


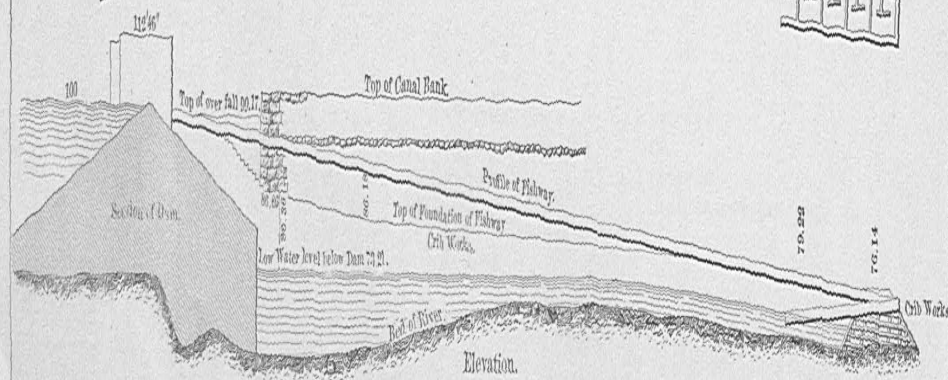
Fig. 4. The Pool Fishway.

Plan and Elevation of Fishway, at
South Hadley Falls, Mass.

CANAL

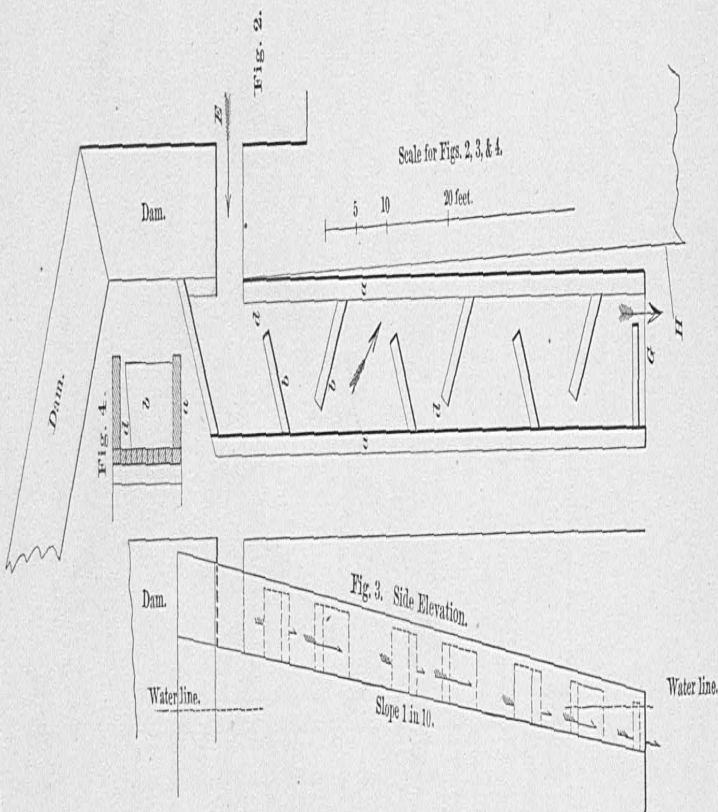
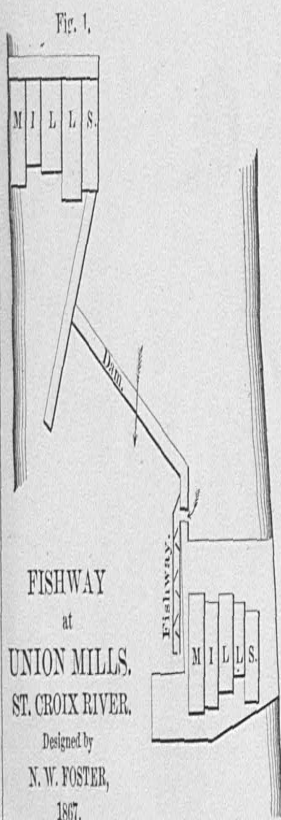
Plan of Fishway.

Fig. 1.



Elevation.

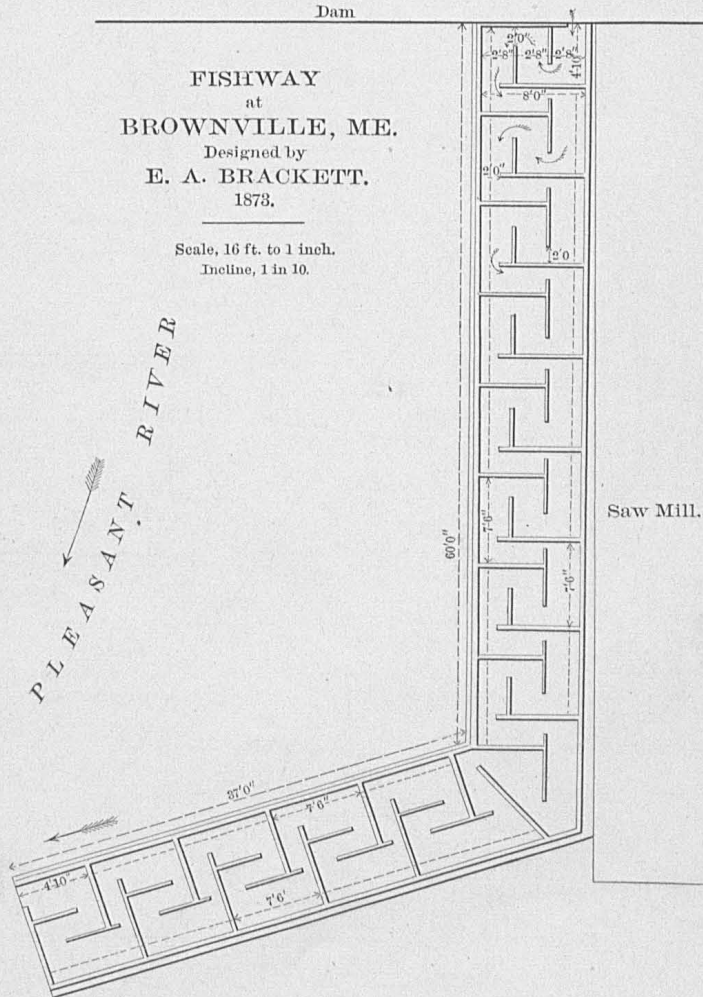
Fig. 2.



- a. a. Side walls of fishway.
b. b. Cross walls, or bulkheads.
d. d. Passage-ways.
Z. Upper end of fishway.
G. Lower end of fishway.
H. Tail-race.
- Fig. 1. Location.
" 2. Plan.
" 3. Side elevation.
" 4. Cross-section, showing shape of passage-ways.

Scale, 16 ft. to 1 inch.
Incline, 1 in 10.

PLEASANT RIVER



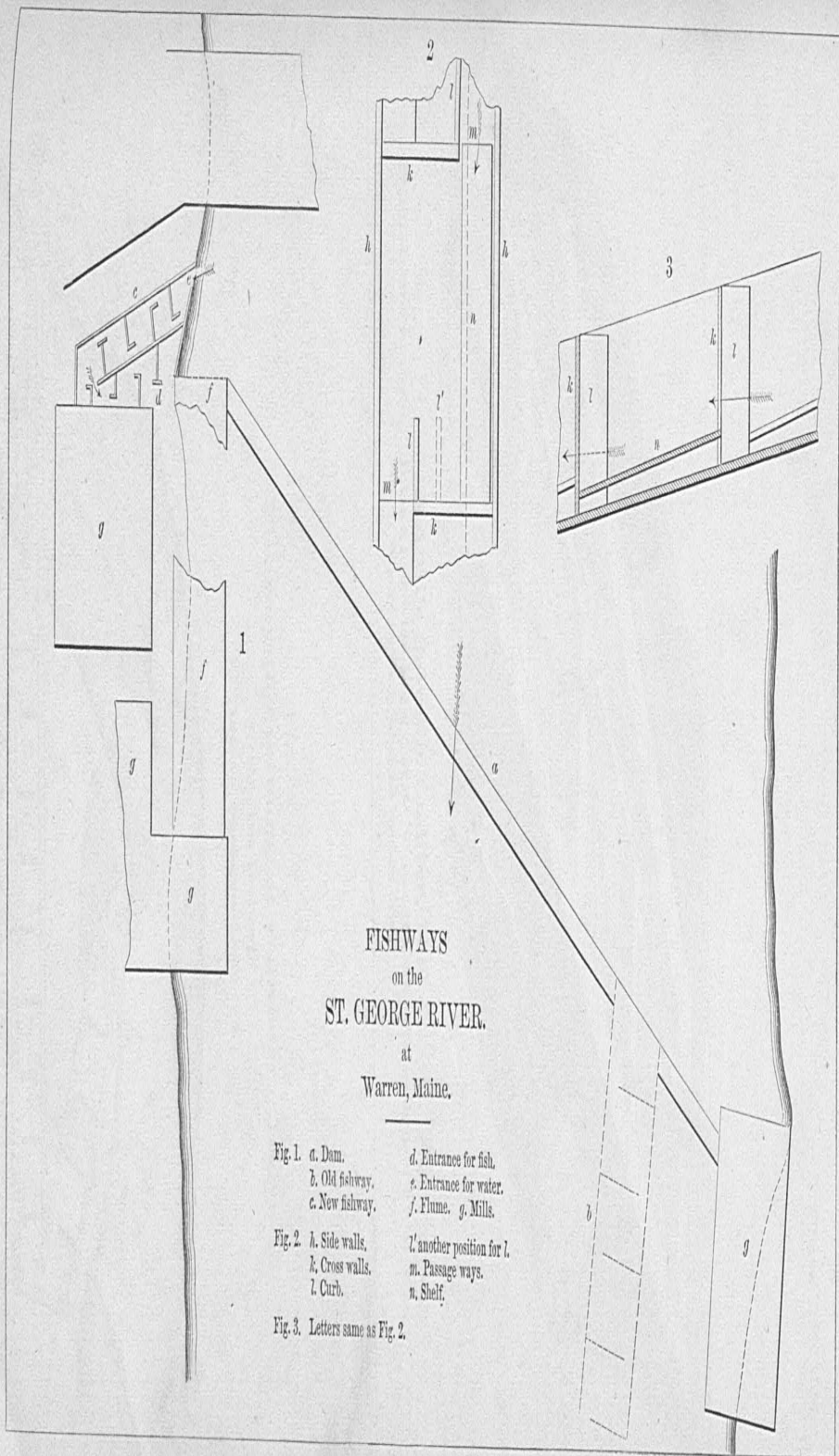
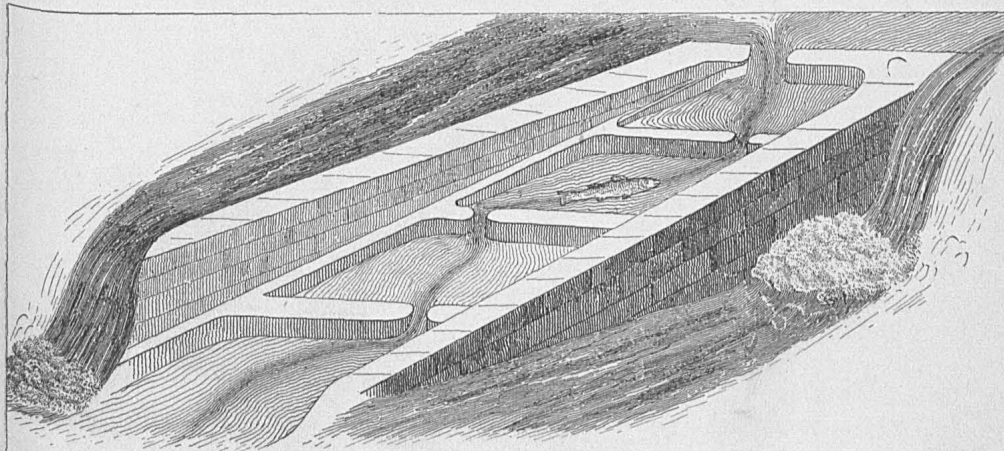


Fig. 1.



Smith's Salmon Ladder, 1840.

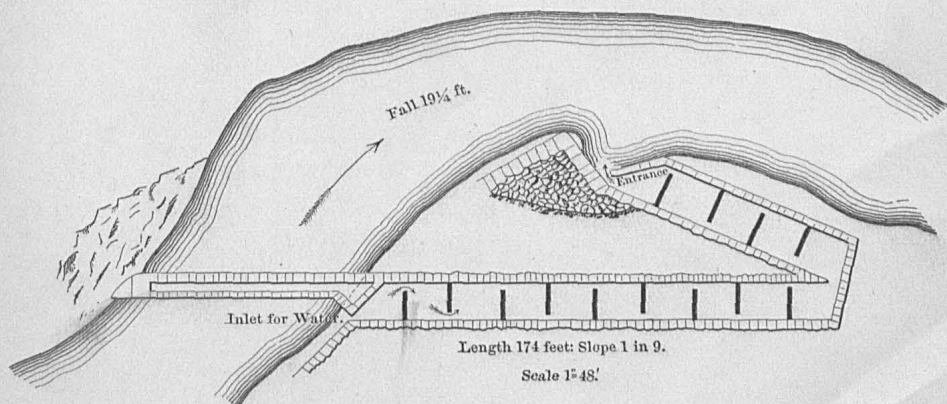
Gradient one in seven. Inlet 2 feet wide and 2 feet deep, opening between each pool 1 foot wide.
Water in each pool 15 inches deep.

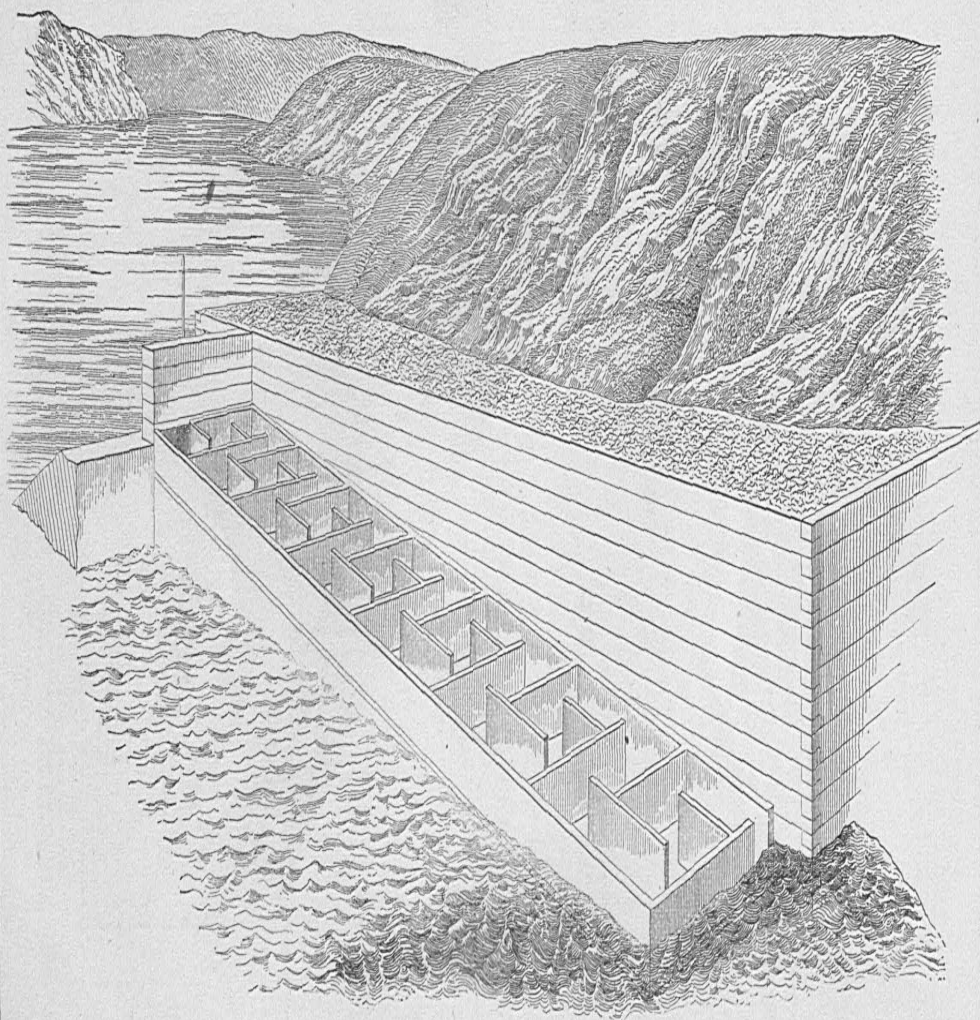
Fig. 2.

Fishway (for salmon) at Balisodare, Ireland.

(After Roberts.)

[Inclined Plane; gradient 1 in 9.]





Brackett's Fishway, closed; perspective view.

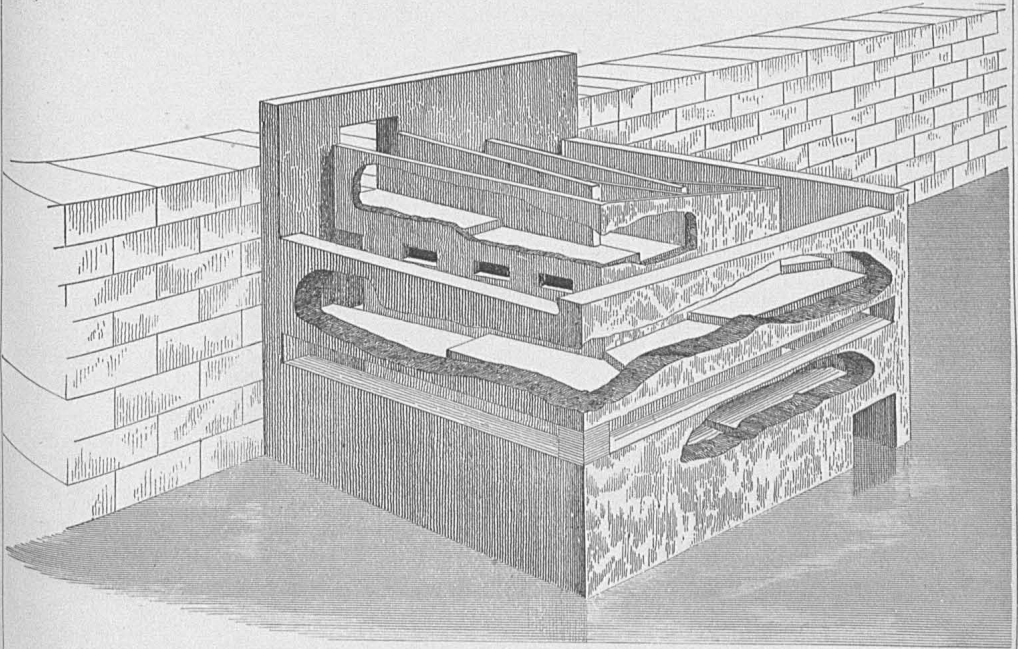
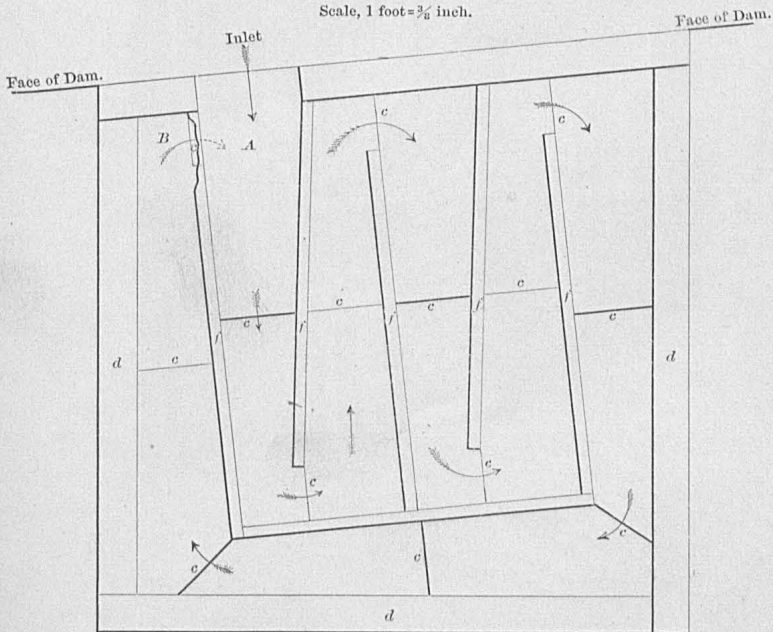


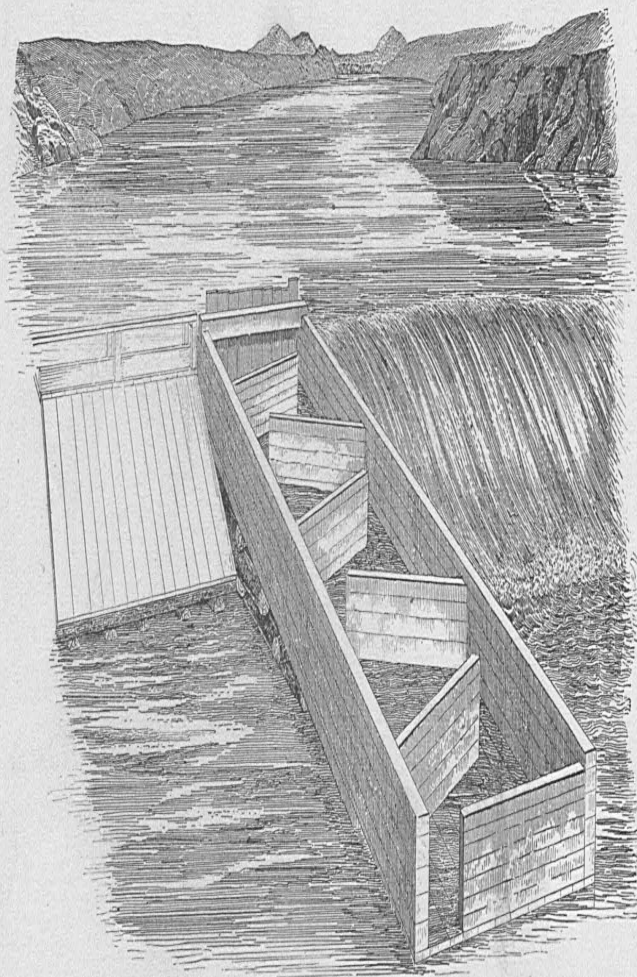
Fig. 1.—Perspective View of Pike's Fishway.

Fig. 2.—Ground-plan of Pike's Fishway.

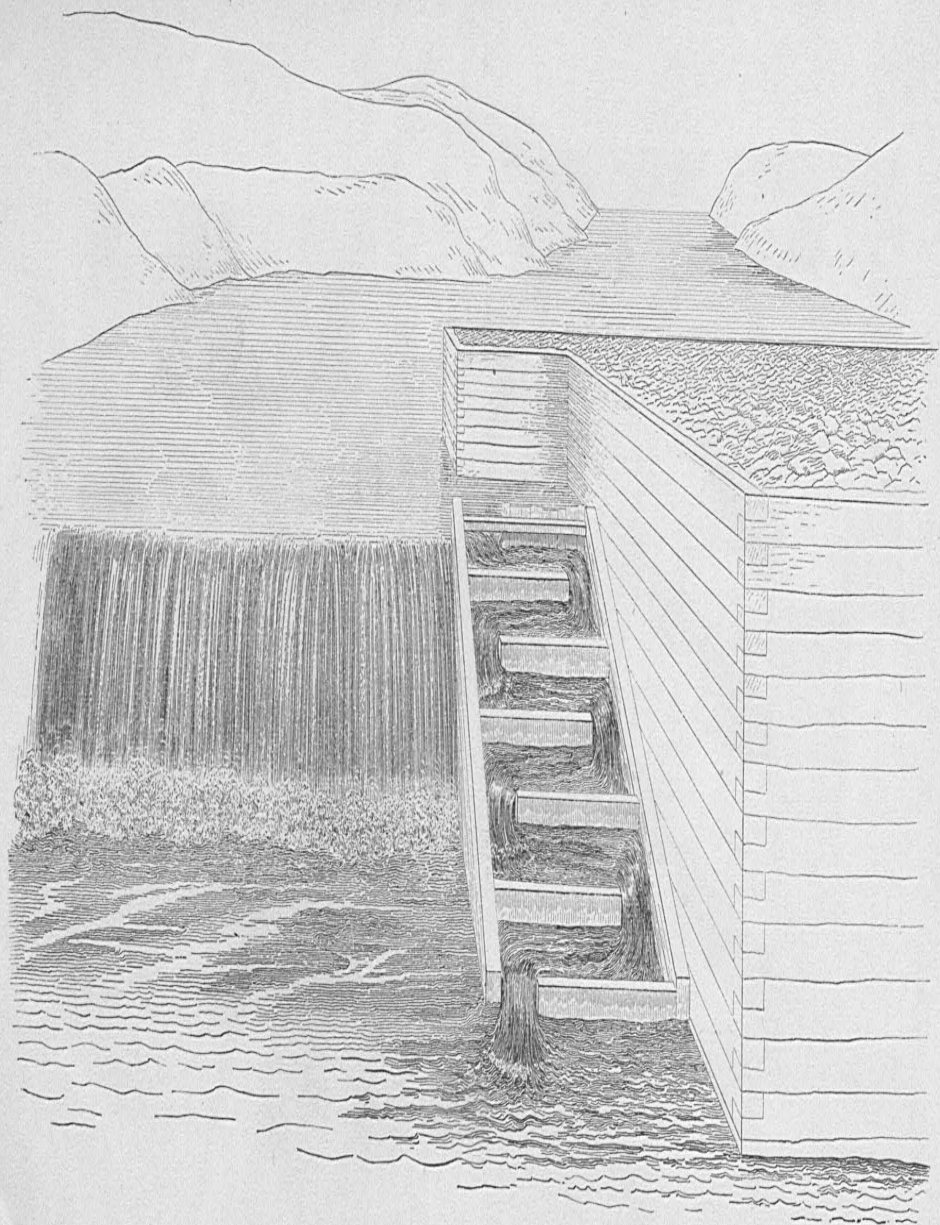
Scale, 1 foot = $\frac{3}{8}$ inch.



Arrows show the direction of the current: *A*. beginning of circuit. *B*. end of circuit.
d, d, d. Outside walls: *f, c, c, c*. Steps, 3 inches each, the floor between the steps being level.
 When the water reaches *B*, it has accomplished a distance of 75 feet, and has fallen 39 inches.
 By another step of 3 inches it passes under *A* and begins a new circuit.



Foster's Fishway (closed.)



Common Rectangular Fishway, in operation.

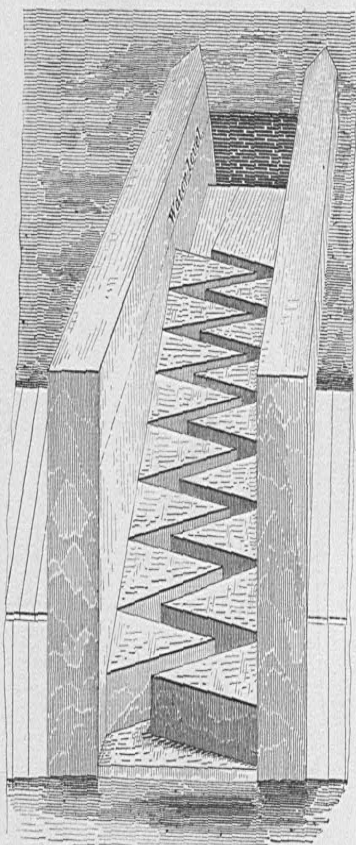


Fig. 1. Brewer's First Fishway.

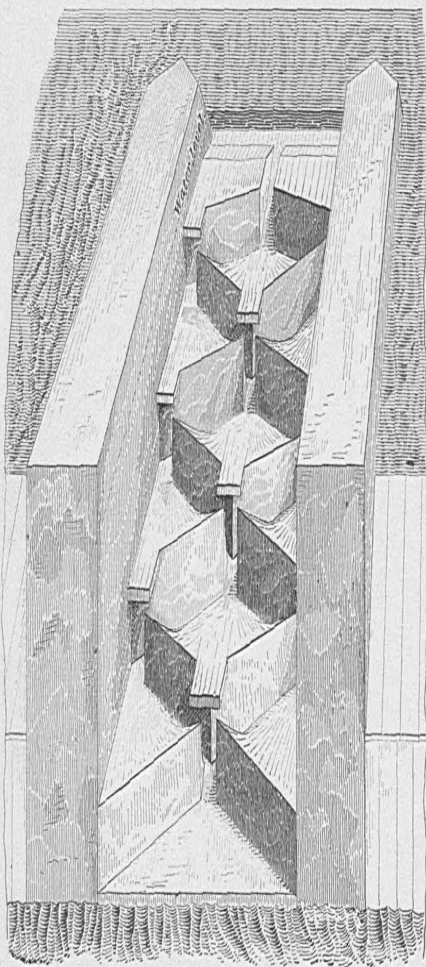


Fig. 2. Brewer's Second Fishway.

Fig. 1. Cail's Straight Fishway.

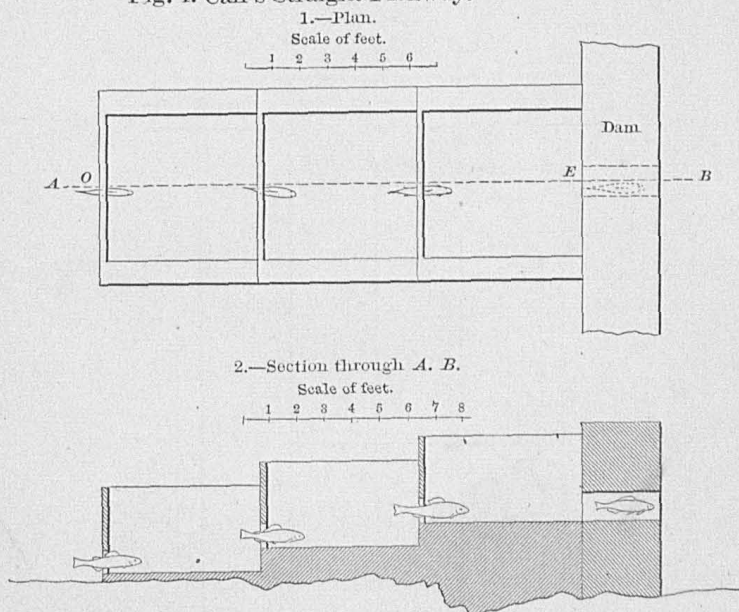
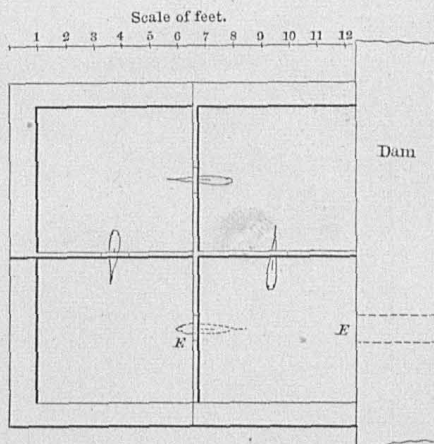


Fig. 2. Cail's Spiral Fishway.



Atkins' Fishway.

Fig. 1. Plan.

Scale of feet.

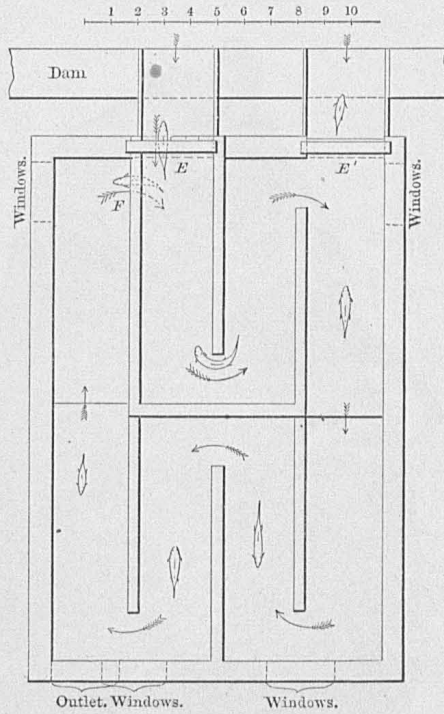
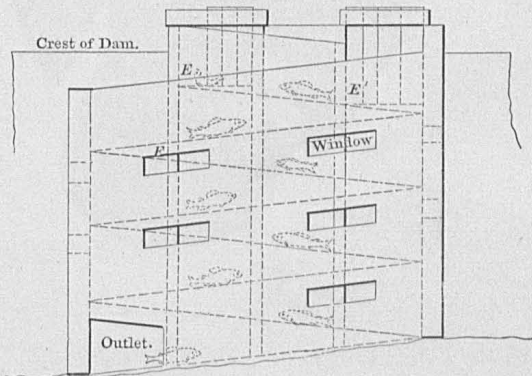
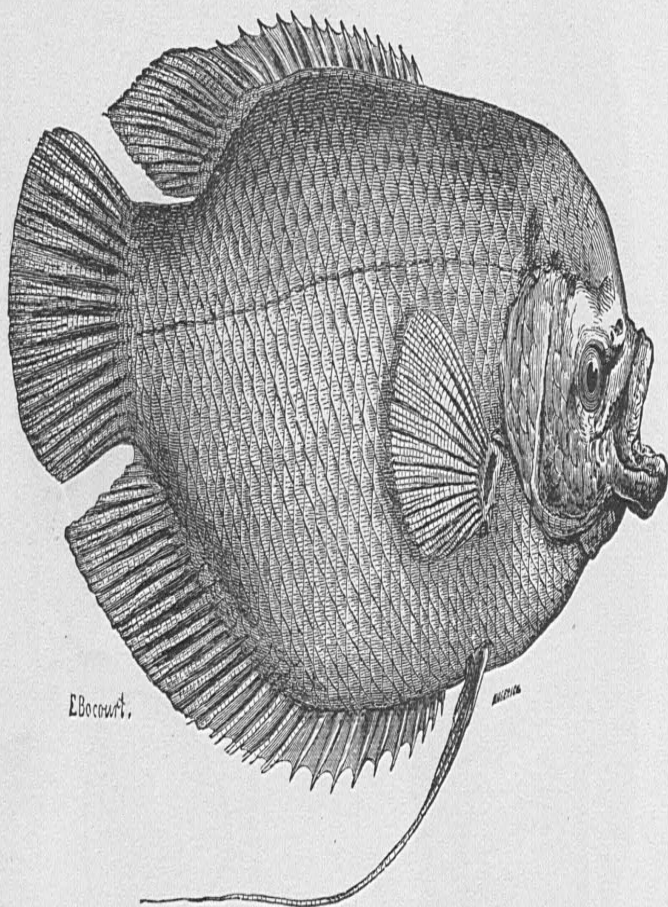


Fig. 2. Elevation.





Osphromenus goramy; old, without bands and with gibbons forehead.

Fig. 1.

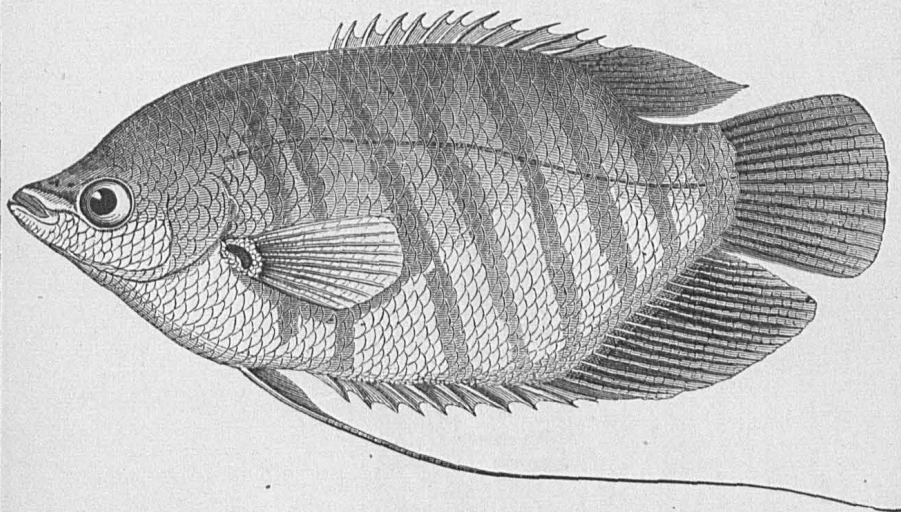


Fig. 2.

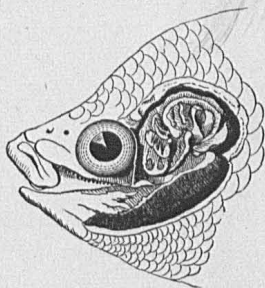
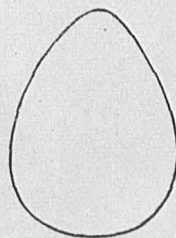
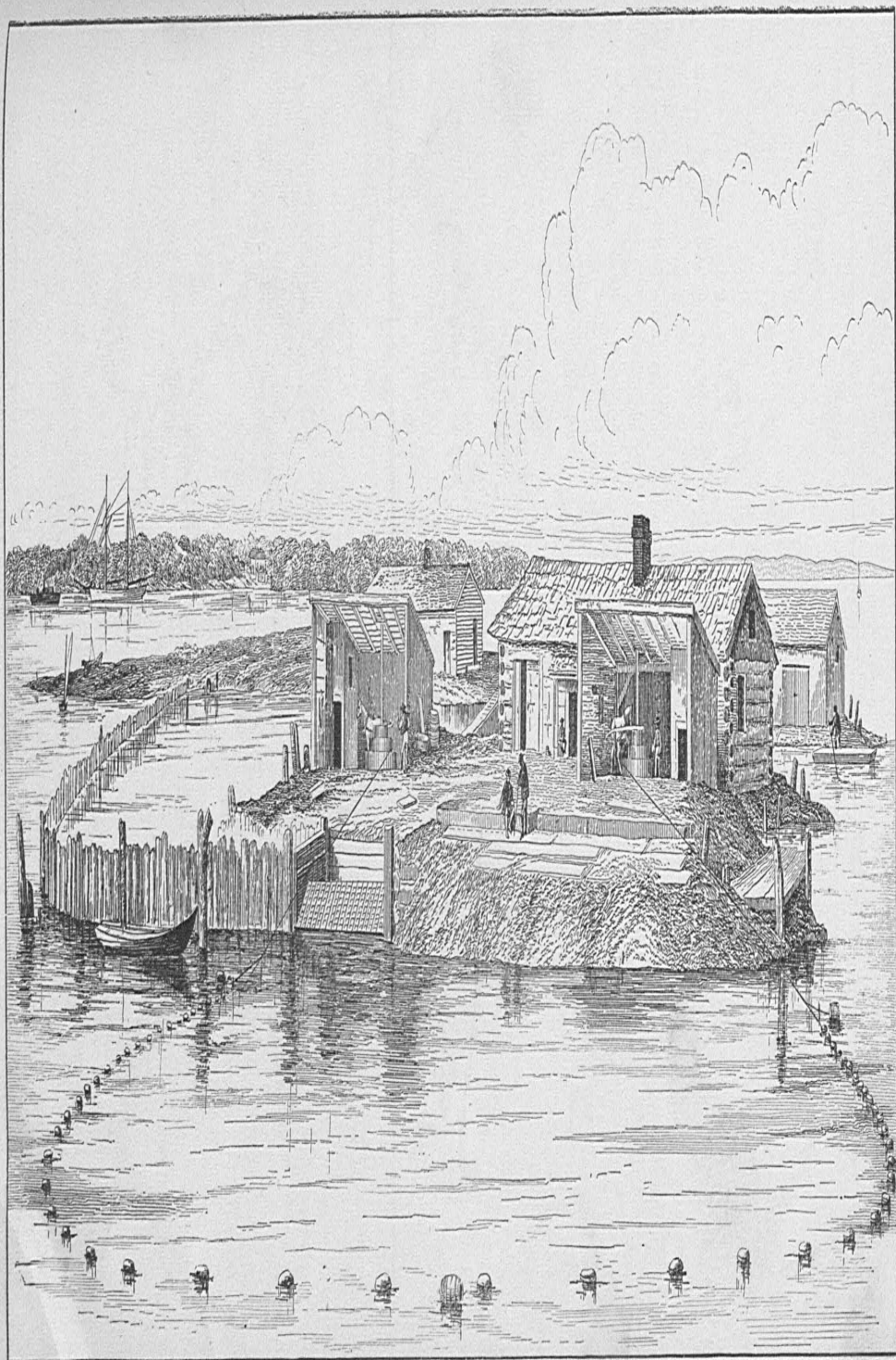


Fig. 3.

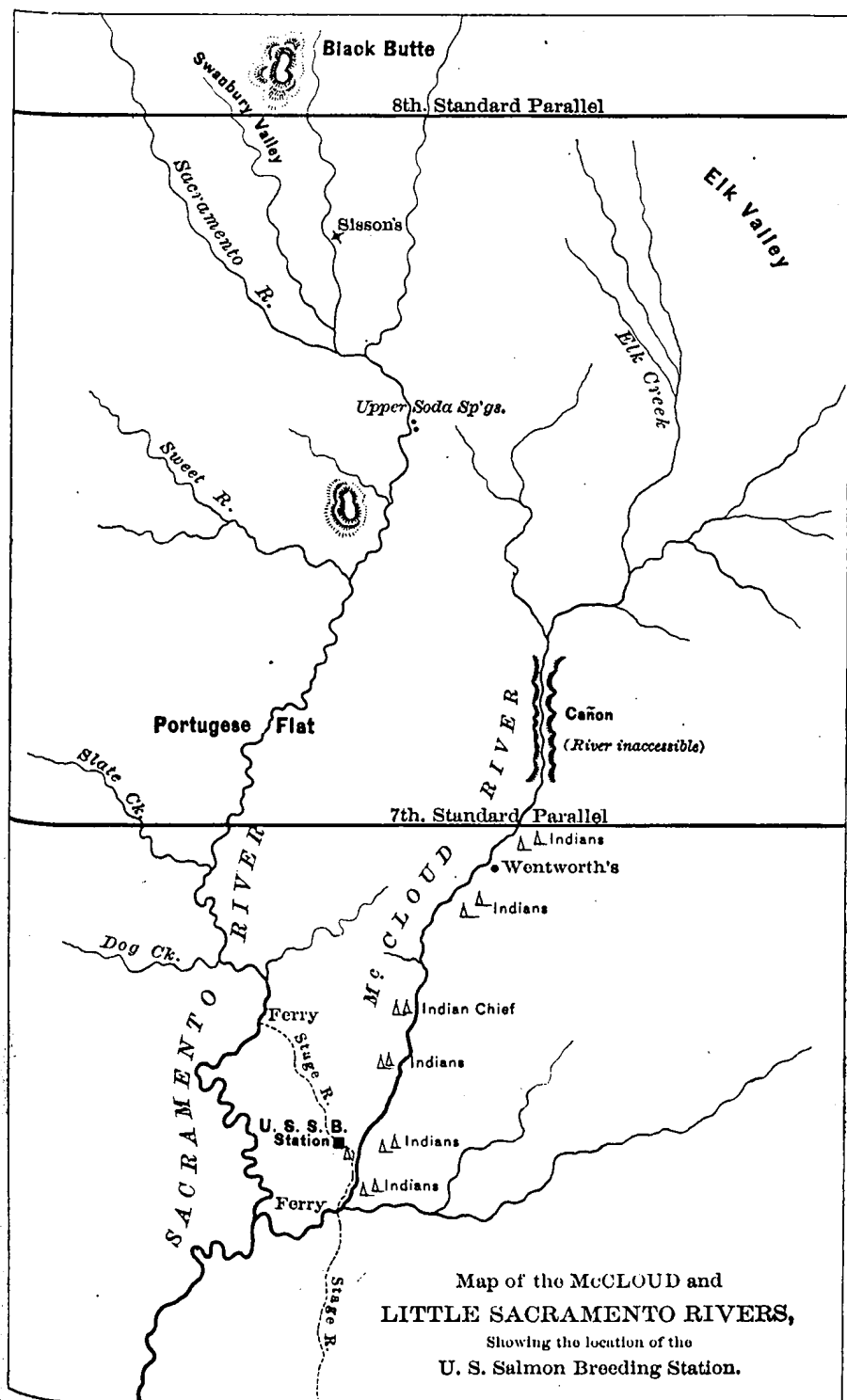


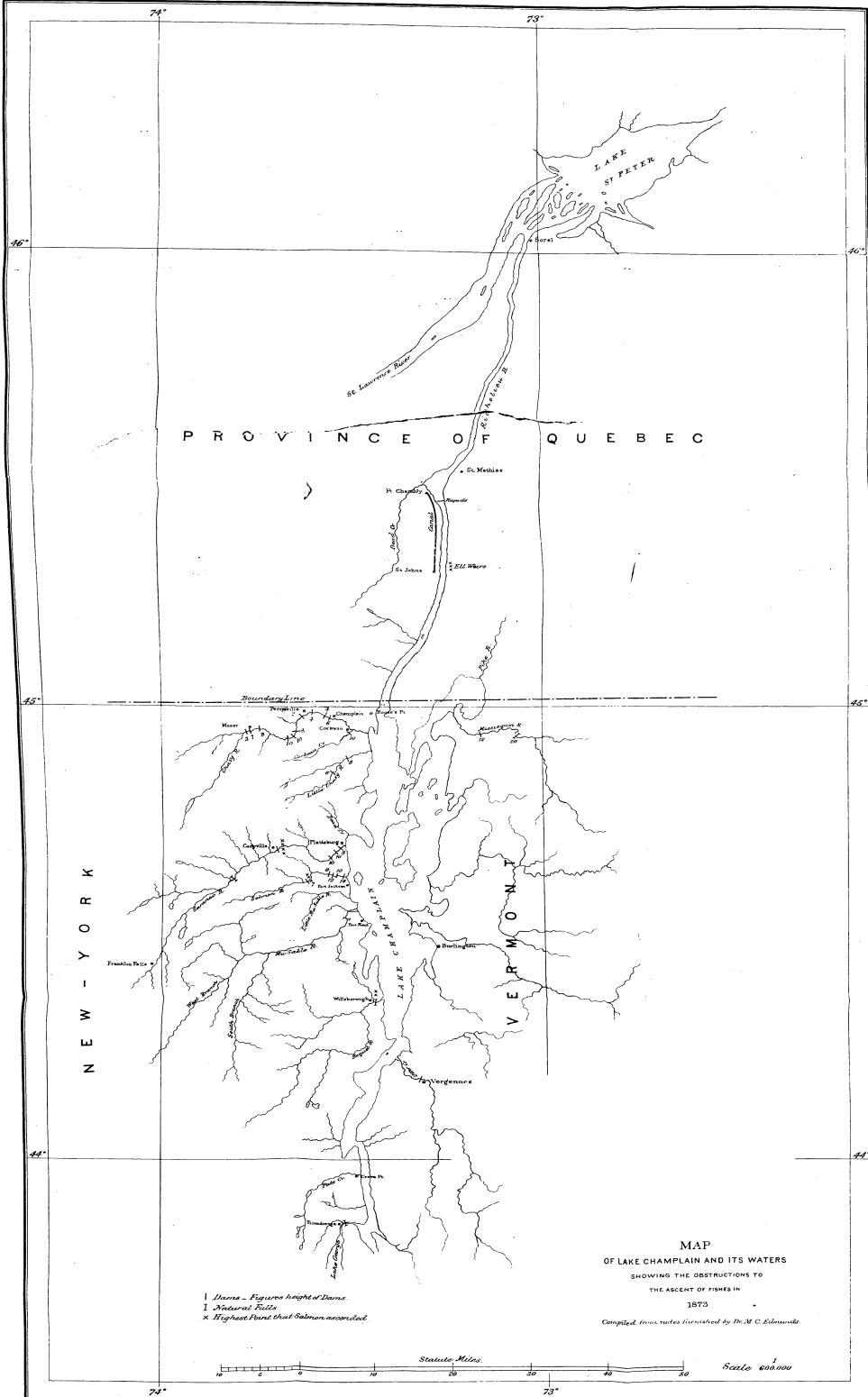
Osphromenus goramy.

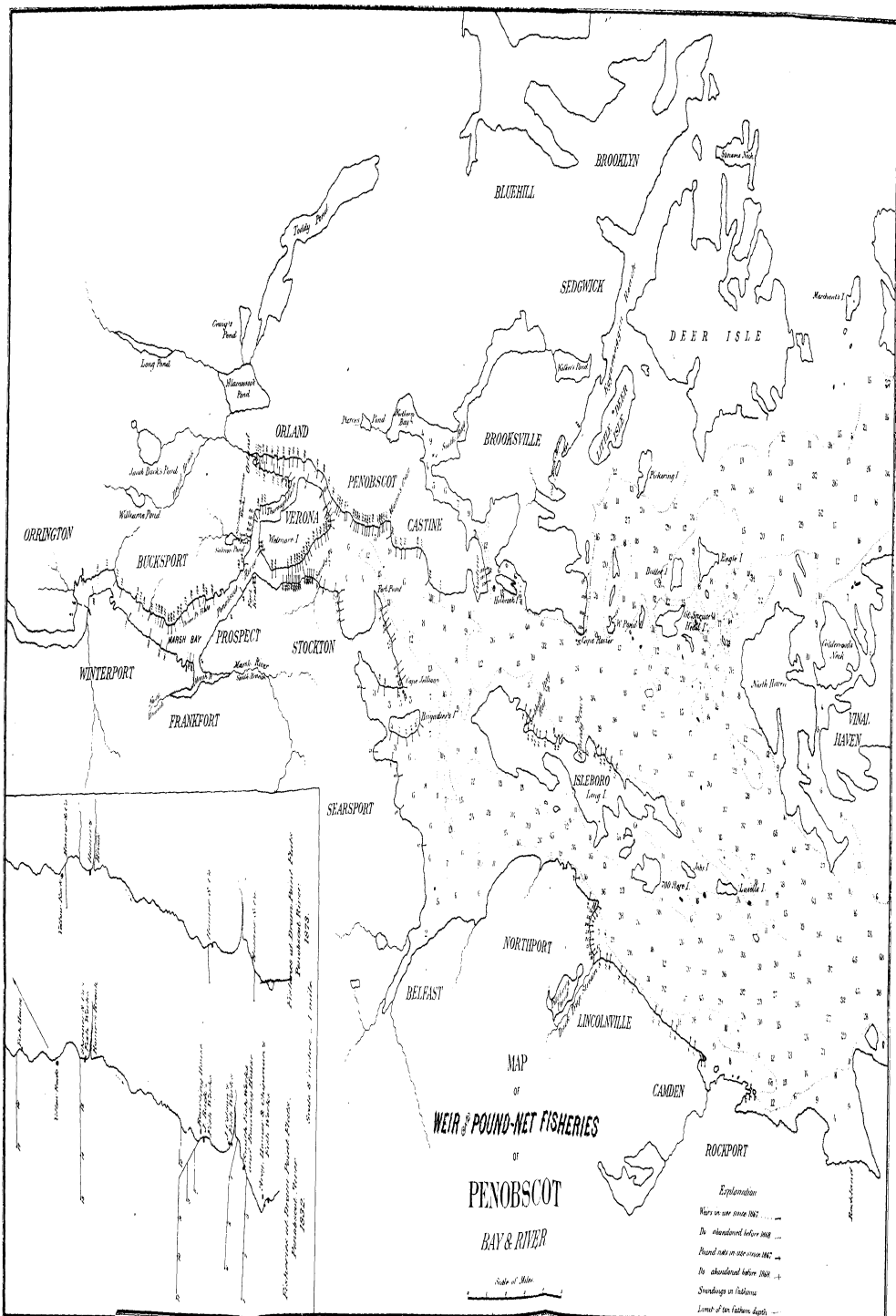
1. Young, with bands.
2. Head with opercula removed to show pharyngo-branchial apparatus.
3. Section through forepart of body.



Grassy Island Pond-Fishery, Detroit River.







MAP
EXHIBITING THE OBSTRUCTIONS
TO THE
ASCENT OF FISHES IN THE RIVERS OF
MAINE
in 1873

Compiled from notes furnished by E. M. Stillwell
and Charles G. Atkins.

