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WHY BARS SHOAL UP. Some Observations Upon the Formations, etc., of Our Bays and Bars.

[BY AN OLD SETTLER.]
The sudden shoaling recently of Tillamook bar naturally brings up before us some momentous questions as to its cause, and will it continue to indefinitely remain thus, a serious obstruction to our growing commerce, also causing to spring up theories as back-ground adjuncts to these questions, concerning the early forming of our bays and bars, and their probable future, the latter a most serious matter just now to citizens of Tillamook county. So, along with others, the author is pleased to advance some thoughts of his own to-day, as to the origin of bays, etc., together with some history of past shoaling of Tillamook bar and its removal therefrom through the simple working of natural laws.

The creation of bays may be divided into two classes: First, "Land locked," as that of San Francisco and Puget Sound, where points of land or hills closely bound the entrance; second, bays protected by spits of sand from the ocean swells, to which class all Tillamook bays, including that of the Columbia river, belong, and hence will be the only class we need consider to-day. These sandspits, however, will have to be separated into two classes, those having a northern entrance or terminus, as Netarts, Tillamook and the Columbia, and those permitting a southern entrance as Nehalem and Nestucca, depending in each case on the near by headlands or capes, or submarine extensions of points of mountains, which, together with the winds, control the direction and weight of the inshore ocean currents. The southerly moving Japan current along this part of the coast being some miles off shore, it leaves eddies or irresponsible currents on its shore edge, subject to being moved in any direction, agreeable to the course of the prevailing winds, which winds, being southerly in winter and northerly in summer, drive respectively the currents in those directions. The sandspits of the Columbia, Tillamook and Netarts bays are doubtless caused, first, by the elevation from the ocean depths, at some remote geological period those huge and far extended capes, that now so safely protect them in each case on their southern shores. After said elevations, it would immediately follow that the southerly currents, fiercely driven by the wintry gales and winds, would in each case, after rounding those capes, take a northerly course, in harmony with the direction of the winds, its inner edge marking the outlines of the present sandspits, for the simple reason that along this edge would be deposited sedimentary matter, mainly of sand, from the ocean on the one side, and the dark soils and vegetable matter that constitute the fresh water deposits carried in from the land on the other, those spit deposits once built up to the surface, was rapidly elevated, in those troubled ages, when the elements played fierce games with every thing terrestrial that was movable. Forming them into those long sinuous ridges, and mounds that we behold to-day, their elevating indeed still goes on, but slowly now, for geological history, like that of man's shows a more quieting state as time goes on. The marine construction of those sandspits would naturally begin at the southern or cape ends and build northerly, pushing the bar or outlet further and further north, until the solid headlands is met that will not permit a further crowding in that direction, and here the work rests at that point to-day. As the southern current driven as it is by the much heavier gales of winter is vastly stronger than the northern current, hence it follows that sandspits constructed by the former are the more permanent of the two, in evidence of which fact, we have on them more or less, and at some points very heavy timbered growths, with often a dark soil mixed with the sands, whilst the other class of spits are composed of shifting sands and foreign debris from the ocean and rivers. And those of the first-class have been established too in the long ago--

for we find, notably at the "Hoxie place," on Tillamook spit, banks of shells several feet in thickness covered by three feet of black soil and sand, those beds of shells, called "kitchen middens," or "kitchen refuse," on the coasts of Denmark, Cornwall and Devonshire, and also at points along the shores of France, where similar deposits are found. Said "refuse" being the cast offs from the daily peasts of prehistoric man, whose "when," "who" and "what," seems to have been swallowed up in the shifting past without leaving even a dream.

The sandspit of the Columbia we find runs due north from its starting point at Tillamook head, this course being somewhat contrary to the direction of the southerly current, by which it was created, seems to have been caused by the pushing back of the ocean current, by the vast volume of fresh water flowing in from the great river. This bay must be one of great age for those extensive timbered flats with deep black soils lying within the half triangle between Seaside, Skipanon, Young's river and thereabouts was certainly included in its former basin, but deposits from that mighty stream covering long ages of time has filled it in. Tillamook spit, with a less projecting headland south and moderate inflow from the land, takes nearly the natural direction of the southerly winds, its bed or "flats" being pretty well divided between the dark sediments from inland and beds of sand brought in by tides or blown by the winds from the spit, and, as a consequence, we find the sand flats next the western and the mud or land deposits on the eastern side of the bay.

But Netarts having but little inflows of land waters, we find its "flats" composed almost exclusively of sand from the ocean. Apropos of those deposits in our bays. This may be called the passing age of the genus clam, for within a few hundred thousand of years, more or less, even without artificial aid, our bays will be filled with sediment, burying up the clam, relegating it to a bit of ancient geographical history a petrified fossil for future speculated professors of that time to ponder wisely upon. In that day, the streams flowing into our bays will noisily meander through beautiful sea level prairies on their way to the ocean. The preponderancy of the heavy south current over that of the north or summer current ought to construct then all our sandspits, and in fact it would, were it not for what we can reasonably consider as effectual hindrances to that result in the shape of submarine ridges or spurs of mountains at intervals projecting out from the shores, whose submerged sides, detect the heavy position of this current from hugging the shore at all points. Under this theory then, we may conjecture that at some point below the mouth of the Nehalem, probably at the "half way rock," twist there and Garibaldi, a submarine ridge sheers the current off shore, which, consequence would permit the north current to do an unimpeded work of constructing a sandspit at the Nehalem that allows only of a south entrance, such entrance, would, of course, be as permanent as those of the other class were it not for the evident fact that the submergence of the aforesaid ridge, acting as a break water to the south current, permits a greater or less depth of water flowing over it, which fiercely driven and churned by the wintry gales sometimes tears and rends at the bar the work of the summer current, often creating a second opening or otherwise shifting and troubling the former entrance, and this uncertain state will probably, without artificial improvement, continue. The outlet working down (as it is gradually doing) the coast until it reaches the submarine ridge above mentioned and then under those protecting walls it will probably become permanent, like that of the Nestucca, which seems to have dug its way down the shore to a point where it secures protection from its southern enemy, for if I am rightly informed this bar undergoes no changes.

Under this theory then, a bar that enters on the north is the most permanent, yet the sudden terminus of the ridges on the sandspits of both Tillamook and Netarts bays, a half mile or so from the entrance, leaving an interval of flat sands between, that bear no marks of age seems to point to a probability that this interval is "buffer ground," over which

the entrance shifts or plays between "great gaps of time."

But the spectre of a waste basket, for this already too lengthy article looms up before me and I must hasten on to a conclusion after a word as to the late shoaling of Tillamook bar. The winter of 1887-8, in Tillamook, was a remarkable one in its meteorological history by its extreme minimum of rainfall, the stream emptying into the bay, remaining comparatively very low throughout the winter, an unusual lack of rainfall, notwithstanding that there was the ordinary amount of southwest winds and gales within that period. Now the results of this uncommon state of affairs was that it was found in the spring that the bar had shoaled to an alarming degree. The only company doing the transportation business here then (Lienenucher & Brown, of Astoria) was severely condemned by many citizens here for causing what was supposed to be false reports as to the conditions of the bar to be circulated in order to keep out possible competition in the carrying business of this bay, but the writer of this article, along with others, thought differently, and so in an article in the HEADLIGHT of April 16 of the latter year, under the head of "Bar Opinions," the writer gave as a reason that said shoaling was caused by the usual filling in effects of the southwest currents meeting at the bar with only a minimum amount of extra fresh water for the time of year to offset or washout its natural forces, hence the ocean work preponderated and the bar was "shoaled." The article pointed out that under this theory a resumption the next winter of the average conditions of rain fall and south winds, (the difference between the amount of fresh water flowing over the bar that winter as a minimum season and an average one he estimated would alone make a stream 500 feet wide, 5 feet deep, and flowing rapidly for three months), would sweep the bar clear of its obstruction which it did as we all know, for there has been no complaint of the matter since until this fall, when nature's work at the bar seems to get out of balance again by reason of the southwest winds starting up unusually strong for the time of year. The southwest winds of September in velocity according to weather bureau at Portland beating all records, the accompanying rainfall being only about an average, hence as a natural result of such unbalancing shoaling is inevitable, but with a resumption of average conditions of rainfall with the south winds this coming winter, unless there is an increase in the width of the entrance, which is not common (under the theory of it as corroborated by past experience) the bar will by next spring be swept out by the winter freshets to its normal condition.

Real Estate Transfers.

- U.S. to J. W. Steinmiz, lot 3, Se ¼ of Nw ¼ and E ½ of Sw ¼ of sec. 4, tp. 2 N, R. 8 W.
- Clara C. and J. D. Edwards to W. W. Fendler, E ½ of Ne ¼ and E ½ of Se ¼ of sec. 11, tp. 2 S, R. 8 W.
- Theo. Steinhilber to Florence Hardman, a tract of Bailey's pre-emption land claim in sec. 21, tp. 1 N, R. 10 W.
- John S. Clark to Abraham Jones, lot 3 and S ½ of Nw ¼ and Nw ¼ of Sw ¼ of sec. 2, tp. 2 S, R. 7 W.
- Ella S. Jenkins to Abraham Jones, W ½ of Sw ¼, Sw ¼ and lot 4, tp. 2 S, R. 7 W.
- Aug. C. Kinney to Joseph Lyons, Se ¼ of Se ¼ of sec. 9, tp. 3 N, R. 10 W.
- U.S. to Charles Young, W ½ of Nw ¼ and W ½ of Sw ¼ of sec. 8, tp. 2 N, R. 8 W.
- U.S. to Mark T. Cox, Ne ¼ of sec. 31, tp. 2 N, R. 5 W.
- Kate and James Stask to Anna Kucher, N ½ of Nw ¼ and Se ¼ of Nw ¼ and Ne ¼ of Sw ¼ of sec. 9, tp. 2 R. 10 W.
- Carrie and W. J. May to Effie M. Grayson, lot 1, in block 1 of McDermott's addition to Tillamook city.
- Edward H. Hardie to The Astoria Co., E ½ of W ½ of sec. 18, tp. 3 N, R. 7 W.

The Scoffer--What right have you to sign your name with an "A. M." after it?
The Signer--As much right as any one it means, in my case, "average man."

INTEREST IN COAL LANDS.

Nehalem Valley Property Again Commanding Attention.

William Fisher, of Vernonia, Columbia county, thinks that portioa of Oregon will soon become known as a great coal mining region, as it is now famed for its big timber. The United States government, he says, owns a whole township which has been reserved for settlement since the lines were first run in that portion of Columbia county, many years ago. This township, known on the maps as 4 north, range 4 west, possesses large veins of as good coal as that mined in Coos county, but its remoteness from transportation lines has kept the fields from being developed. The government price of these coal lands is \$10 an acre. Several years ago, a corporation purchased a number of acres and proceeded to develop a very fine ledge, which showed six feet in width at the surface of the ground and widened to 11 feet as a depth of 40 feet was attained. At that time, Mr. Fisher says, everybody expected a railroad to be built between Hillsboro and Astoria, and these valuable coal and timber lands at the head of the Nehalem, at once sprung into prominence. Several miles of the road were graded out from Hillsboro, but the building of the other road down the Columbia river from Portland took the wind out of the sails of the Hillsboro project, and so the coal fields were abandoned for the time being. The upward tendency of timber interests had recently brought the entire Nehalem country before the world again, and men who have patiently held on to their timber claims are now on the eve of being rewarded. Deeds can be obtained to very fine timber lands at 20 an acre, which Mr. Fisher regards as cheap, considering the millions of feet carried on these hitherto neglected tracts. —Oregonian.

RAILROAD TO NEHALEM.

Coal of That Region Contains Too Much Sulphur to Make Line Pay.

The following letter appeared in the Oregonian:

"I notice the article of William Fisher, of Columbia county, Oregon, in your paper this morning regarding the coal beds therein. I speak from experience when I say Mr. Fisher's reports are correct and furthermore, that these coal beds are (as reported by United States geological survey) 10 miles in length by not exceeding two miles in width, of unbroken coal veins of six to nine feet. Relying upon these reports and of those of six different mining engineers from different states whom I had investigated these mines in 1890 and 1891, I was instructed by client's last spring (1899) to prepare for the construction thereto of a local railway from Portland to these Upper Nehalem mines, but before doing so to find out the true amount of sulphur therein. Accordingly, three separate large parcels of these coals were shipped to Lanarkshire, in Scotland; to Lancashire, in England, and to the United States assay office in Washington, D. C., with special instructions to each to carefully analyze the same and find the several proportions of sulphur. The result was as follows: The Scotch people reported 4 per cent, the English people a little over 4 per cent, and the United States geological survey office reported 3.97 100 per cent of sulphur in these Upper Nehalem coals. The latter analysis was made under direction of the United States geological bureau officer, Peter Foreman, the reporter stating: 'These coals contain an unusually large percentage of sulphur. After making the first analysis, with practically the same results.' Thereupon the professor of chemistry of the Oregon agriculture college at Corvallis was consulted, who replied last summer that if the Upper Nehalem coal contained such large amounts of sulphur, it would be of little value for commercial or steam purposes. To me these recent reports are a matter of deep regret, as, having eight and one-half miles of grade, which I constructed for a railroad to the Nehalem, west of Hillsboro, I was hopeful of utilizing the same for the proposed coal railway to the Nehalem, so ordered it to be built last spring, but the large amount of sulphur stopped that enterprise. At the same time I quite agree with Mr.

Fisher that the timber of the Nehalem valley and tributaries will some day alone warrant the construction of a railroad thereto, but whether that railroad will go to Astoria or Portland will depend entirely upon the energy, co-operation and perseverance of the inhabitants of which ever city first starts to build the railroad that Mr. Fisher proposes.

WILLIAM REID.

TILLAMOOK WEATHER.

Nov.	Temperature.	Maxi-	Mini-	Mean.	Rain-
		mum.	mum.		fall.
1	64	42	53.0	0.00	
2	64	42	53.0	0.00	
3	59	50	54.1	0.58	
4	60	50	55.0	0.30	
5	60	39	49.1	0.02	
6	56	45	50.1	0.12	
7	62	51	56.1	0.90	
8	59	52	55.1	0.55	
9	60	55	57.1	1.25	
10	57	50	53.1	0.60	
11	55	51	53.0	0.65	
12	59	45	52.0	0.08	
13	60	51	55.1	0.57	
14	61	51	56.0	0.28	
15	57	49	53.0	1.08	
16	52	44	48.0	0.68	
17	52	41	46.1	0.94	
18	56	48	52.0	2.02	
19	56	48	52.0	1.04	
20	51	44	47.1	0.85	
21	54	47	50.1	1.75	
22	53	45	49.1	0.34	
23	58	49	53.1	0.02	
24	58	46	52.0	0.28	
25	61	48	54.1	0.07	
26	60	55	57.1	1.85	
27	59	54	56.1	1.75	
28	57	47	52.0	0.04	
29	56	44	50.0	1.76	
30	54	46	50.0	2.55	
Sum.	1739	1429	1588	22.02	
Mean	57.5	47.5	52.7	0.00	

SUMMARY.—Mean temp., 52.7; max. temp., 64; date, 1st and 29d. Min. temp., 39; dates, 5th. Total precip. inches, 22.02; total snowfall inches, 0; number of days clear, 0; partly cloudy, 1; cloudy, 29. Dates of frost—Light, 0. Killing, 0. Dates of hail, 0; sleet, 0; thunder storms, 21st; auroras, 0. Prevailing wind—Direction, S. W. CAPT. JOSEPH J. DAWSON, Voluntary Observer.

Tillamook Bay Improvements.

The Portland Chamber of Commerce is not selfishly and exclusively interested in Portland. It works for the entire Northwest. It has indorsed and will support the petition to improve the entrance to Tillamook bay. The petition recites the advantages that would accrue to the surrounding territory if such improvement were made, and states that competent authorities have placed the cost of the construction of a jetty to accomplish the end sought at \$250,000. The matter was explained to the trustees by W. S. Cowe and J. H. Bridgeford, of Bay City, Tillamook county, the latter gentleman stated in support of the measure, that because it impeded navigation, their are now hundred of tons of butter and cheese in Tillamook awaiting transportation to the outside world. At present, he stated, the depth on the bar is, approximately, at mean low tide, 12 feet. In the summer time, when northerly winds prevail, the depth is from 16 to 18 feet at low tide. But with each recurring winter season, when the wind changed from northerly to southerly direction, the channels fills up to about 12 feet, and even less. There is no question as to the feasibility of the project for maintaining a channel at a constant depth of 22 feet. It was moved and carried that resolutions be passed indorsing the petition. The trustees all expressed themselves as heartily in favor of the improvement of Tillamook bar.

Bluffed the Insurgents.

MANILA, Dec. 2.—The capture by Lieutenant Monroe and 50 men of the Fourth cavalry of the Filipino general, Canon, with 800 men and officers, with rifles, several American and 70 Spanish prisoners, at Bayombong, in the province of Nueva Viscaya, was a successful bluff. Monroe tapped the rebel wire, telegraphed to Canon that he was advancing with a large force, and demanded his surrender. After negotiations, Canon consented to capitulate to the "superior force," whereupon Monroe telegraphed that he would enter the town with a small guard and receive the garrison's surrender. He captured the whole Fili-

pino force and secured their arms, the rebels supposing Monroe had an army behind him.

WERE FOREST GROVE MEN.

The Mc Namers, Who were Drowned in the Yukon River.

FOREST GROVE, Or., Dec. 2.—Miss Alice McNamer, of this place, received word this morning confirming the former report that her two brothers, Theodore C. and Converse W., were drowned in the Yukon river November 11, about 900 miles from Dawson, by the ice upsetting their scow, which was loaded with stock. No further doubt exists. Con McNamer was 25 years of age, and will be remembered by most of the football players in Oregon, and was formerly a member of Pacific university's first team. Theodore C. McNamer was 44 years old, and had been a farmer and experienced stockman in this county for the past 29 years. Both were born five miles north of Forest Grove, and had been residents of this county continually until their trip to the Klondike the past two years.

Quaint Features of Life.

Some society girls of Babylon, Long Island have formed the Giddy Girls' Darning Club, the avowed object of which is to keep in order the hosiery of their bachelor friends. These giddy girls, however, will only darn the socks of such young men as do not smoke, drink, play cards or do anything really naughty—the kind of men, in short, who are perfectly able to darn their own socks.

The young duke of Manchester is making a copper-riveted donkey of himself. When Otero appeared on the stage at Lyons the other night, the duke ran down toward her, scrambling among the orchestra, and, with clasped hands, implored her for the cigarette she was smoking. She gave it to him, he drew two puffs ecstatically, then extinguished it, placed the butt in his card case, threw a kiss to the Spanish girl and went out, leaving the audience in an uproar. The duke needs a guardian.

For ways that are dark the "Heathen Chinese" still holds his own. Many of the Chinamen who have been working on the Mexican Central railway and who now want to return to their native land free of expense, have crossed the border into Texas, where they have been taken into custody pending deportation, in accordance with the provisions of the exclusion act. There are several hundred of them and the cost of returning them will be about \$500 per capita, but perhaps Uncle Sam, who has just discovered this little game, may find some way to beat it.

Rosie Davis, a bearded lady now in Chicago waiting to fill an engagement with a circus, got lost the other night while out walking in Lakeview and not desiring to be conspicuous went to the back door of a house to inquire her way. The result was a great fright on the part of the people who lived in the house, three women going into the hysterics and a man running out the front door in search of the police. The bearded lady fled and tried another house, at which her appearance caused a woman to faint. By this time the police arrived with a patrol wagon and the free exhibition for which people generally pay to see was suppressed.

Leo Frankel, a Chicago peddler who sold books, argued for nearly an hour with Mrs. August Schaak of 207 Fletcher street, to induce her to buy a photograph album. When she agreed to take one he dropped dead. At first Mrs. Schaak refused to buy anything, but finally he went out to his wagon, which had been left standing in the street, and brought forth an album with a bright green cover, which he offered for \$6. She exclaimed that she would buy it. "At that moment," said Mrs. Schaak, in telling about the affair, "I looked up and saw the man looking at me with an expression of bewilderment on his countenance. The next instant he staggered and sank into a chair, his limbs twitching convulsively." Mrs. Schaak sent her little boy for a doctor. When he arrived at the house life had passed from the body of the pedler. The physician pronounced the case one of heart failure, superinduced by a mental shock.